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Montana Basin Outlook Report

May 1, 1998

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Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

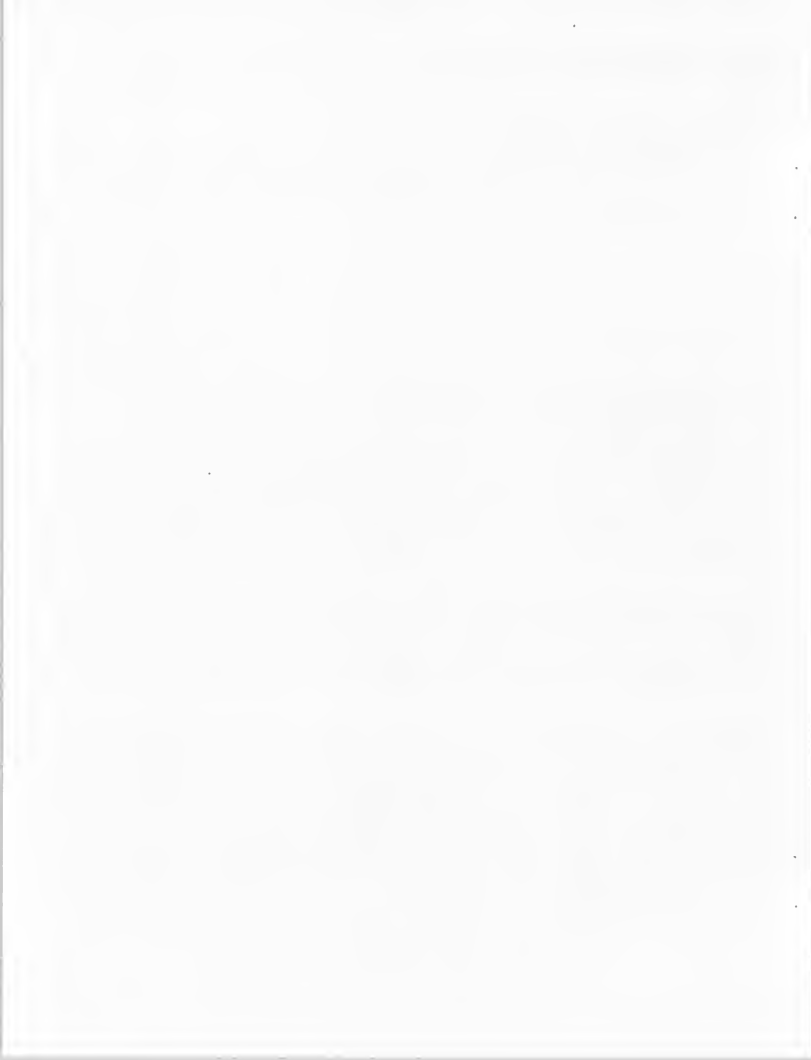
Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Bozeman, Montana

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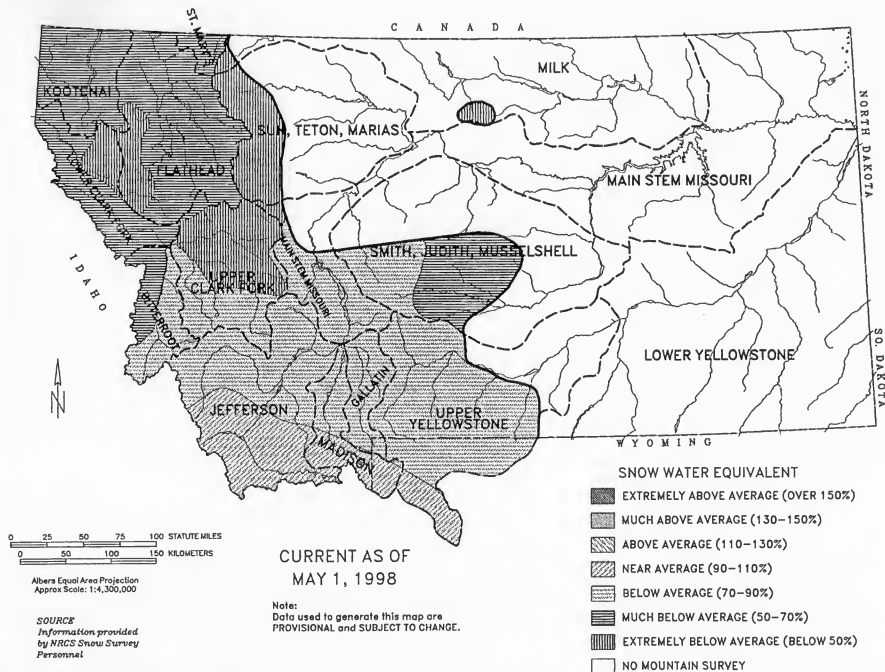
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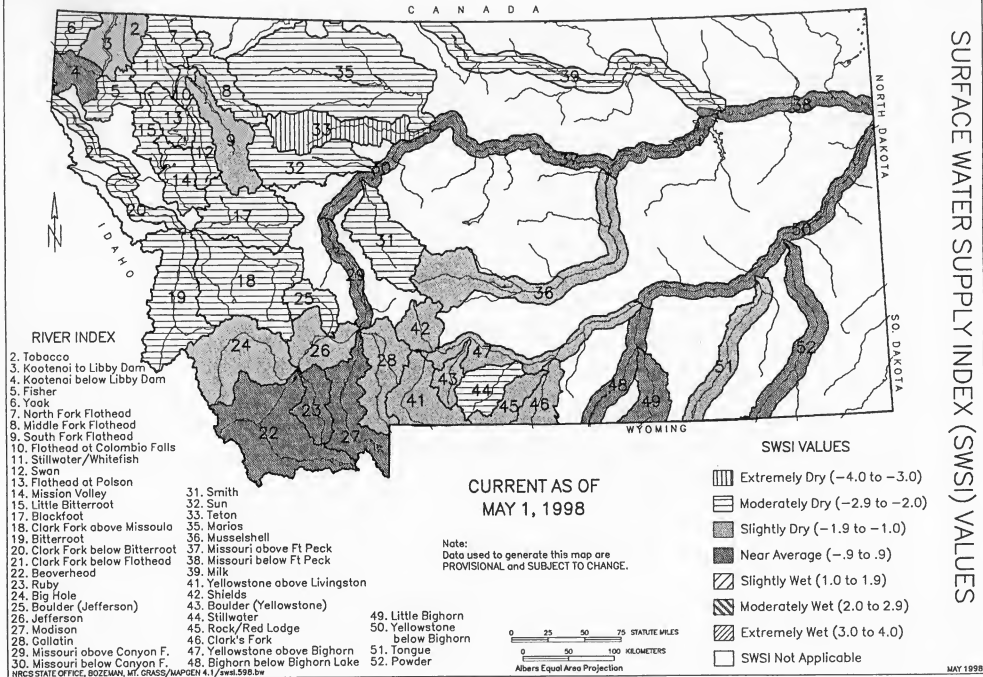
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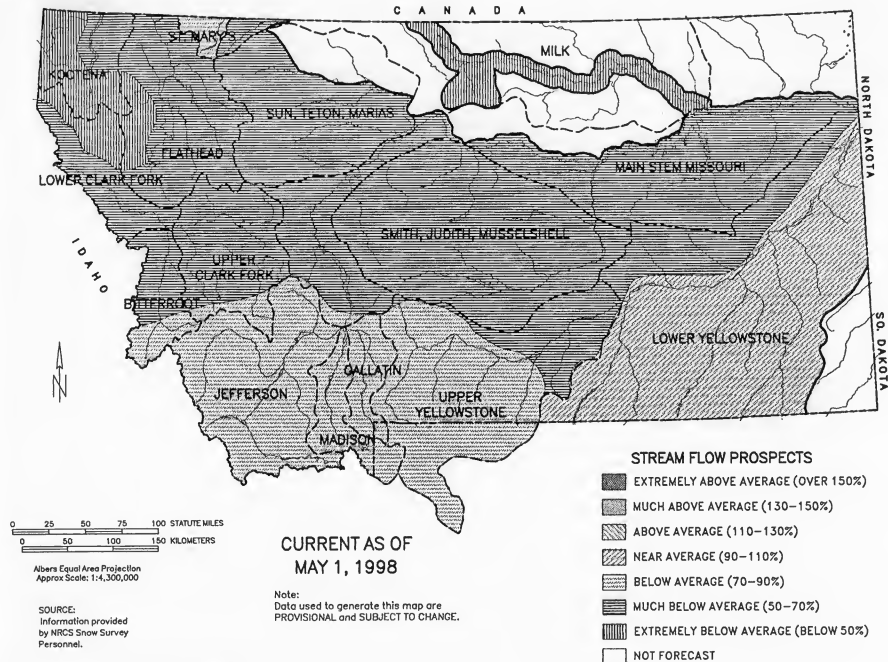




SURFACE WATER SUPPLY INDEX (SWSI) VALUES









BASIN SUMMARY OF
SNOW COURSE DATA

MAY 1998

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
ABE LINCOLN	4440	5/01/98	0	.0	28.2	--
ABUNDANCE LAKE	8800	4/28/98	58	21.8	34.2	22.6
ALBRO LAKE PILLOW	8300	5/01/98	---	17.8	32.3	--
AMBROSE	6480	4/28/98	22	9.4	22.4	12.1
ASHLEY LAKE	4000	4/28/98	0	.0	8.0	1.2
ARCH FALLS	7350	4/28/98	33	11.6	19.6	13.7
ASHLEY DIVIDE	4820	4/28/98	0	.0	7.8	1.0
BADGER PASS PILLOW	6900	5/01/98	---	20.6	49.1	37.8
BANFIELD MTN PILLOW	5600	5/01/98	---	8.4	34.8	18.3
BAREE CREEK	5500	4/28/98	64	31.2	61.8	43.0
BAREE MIDWAY	4600	4/28/98	46	20.8	53.0	29.4
BAREE TRAIL	3800	4/28/98	0	.0	13.8	1.3
BARKER LAKES PILLOW	8250	5/01/98	---	12.7	23.8	16.0
BASIN CREEK PILLOW	7180	2/01/98	---	12.2	14.2	10.0
BASSOO PEAK	5150	4/28/98	0	.0	11.4	5.7
BEAGLE SPGS PILLOW	8850	5/01/98	---	9.3	15.6	8.8
BEAR BASIN	8150	4/28/98	53	20.8	30.6	22.0
BEAVER CREEK PILLOW	7850	5/01/98	---	18.7	30.8	20.5
BIG CREEK	6750	4/27/98	95	36.8	70.1	49.8
BIG SNOWY	7150	4/24/98	44	14.0	27.3	24.3
BISSON CREEK PILLOW	4920	5/01/98	---	3.7	14.0	2.5
BLACK BEAR PILLOW	7950	5/01/98	---	38.9	68.9	39.8
BLACK MOUNTAIN	7750	4/29/98	46	16.6	23.2	17.8
BLACK PINE PILLOW	7100	5/01/98	---	7.2	18.5	12.0
BLACKTAIL	5650	4/28/98	10	3.0	24.5	7.0
BLOODY DICK PILLOW	7550	5/01/98	---	10.1	19.6	10.5
BLUE LAKE	5900	5/01/98	18	7.9	32.8	23.9
BOTS SOTS	7750	4/28/98	12	5.1	10.7	8.1
BOULDER MTN PILLOW	7950	5/01/98	---	16.0	31.4	21.7
BOX CANYON PILLOW	6700	5/01/98	---	1.9	11.1	3.8
BOXELDER CREEK	5100	5/01/98	0	.0	5.2	2.2
BRACKETT CR PILLOW	7320	5/01/98	---	19.1	37.9	22.7
BRANHAM LAKES	8850	4/29/98	69	27.2	47.6	33.2
BRUSH CREEK TIMBER	5000	4/28/98	0	.0	6.8	6.0
BULL MOUNTAIN	6600	4/30/98	0	.0	11.4	3.1
CABIN CREEK	5200	4/29/98	0	.0	4.1	1.9
CALL ROAD	8050	4/28/98	26	10.5	17.2	13.0
CALVERT CR PILLOW	6430	5/01/98	---	1.2	12.6	3.4
CAMP SENIA	7890	4/28/98	20	6.4	11.0	8.4
CARROT BASIN PILLOW	9000	5/01/98	---	28.4	46.0	31.2
CARTER CREEK	7400	4/28/98	26	9.0	11.2	--
CHESSMAN RESERVOIR	6200	4/29/98	0	.0	1.0	2.4
CHICKEN CREEK	4060	4/27/98	0	.0	19.9	3.6
CLOVER MDW PILLOW	8800	5/01/98	---	18.9	25.7	19.0
COLE CREEK PILLOW	7850	5/01/98	---	15.6	19.8	20.6
COMBINATION PILLOW	5600	5/01/98	---	.0	4.1	3.2
COPPER BOTTOM PILLOW	5200	5/01/98	---	.0	13.0	8.1
COPPER CAMP PILLOW	6950	5/01/98	---	12.3	43.1	35.3
COPPER MOUNTAIN	7700	4/28/98	32	10.8	17.8	10.6
COTTONWOOD CREEK	6400	4/29/98	23	8.5	12.6	7.6
COYOTE HILL	4200	4/29/98	0	.0	12.1	3.0
CRYSTAL LAKE PILLOW	6050	5/01/98	---	2.4	15.5	10.9
DAD CREEK LAKE	8400	4/28/98	52	18.5	22.6	16.6

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
DAISY PEAK	7600	4/30/98	19	6.4	14.1	8.7
DAISY PEAK	7600	4/30/98	19	6.4	14.1	8.7
DALY CREEK PILLOW	5780	5/01/98	---	6.5	16.6	5.8
DARKHORSE LK. PILLOW	8700	5/01/98	---	28.6	49.0	35.3
DAVIS CREEK	5400	5/01/98	31	15.2	36.7	21.5
DEADMAN CR PILLOW	6450	5/01/98	---	4.7	13.4	6.9
DISCOVERY BASIN	7050	4/30/98	29	11.2	17.9	10.0
DIVIDE PILLOW	7800	5/01/98	---	11.4	16.3	12.1
DIX HILL	6400	5/03/98	0	.0	8.5	4.4
DUPUYER CREEK PILLOW	5750	5/01/98	---	.7	12.2	8.5
EAST FORK R.S.	5400	4/25/98	0	.0	5.6	.9
ELK HORN SPRINGS	7800	4/28/98	23	8.1	14.1	7.7
ELK PEAK	8000	4/28/98	43	14.4	25.8	19.2
EMERY CREEK PILLOW	4350	5/01/98	---	.3	18.1	8.5
FATTY CREEK	5500	4/27/98	44	16.8	41.3	23.6
FISH CREEK	8000	4/24/98	49	14.7	17.2	12.4
FISHER CREEK PILLOW	9100	5/01/98	---	28.3	60.4	38.7
FIVE-BULL	5700	4/26/98	0	.0	7.6	3.2
FLATTOP MTN PILLOW	6300	5/01/98	---	36.0	66.9	48.4
FLEECER RIDGE	7500	5/01/98	19	6.2	21.4	8.4
FOOLHEN	8280	4/28/98	50	17.8	28.0	18.2
FOUR MILE	6900	4/29/98	17	6.1	11.5	6.9
FOURTH OF JULY	3450	4/30/98	0	.0	5.9	1.0
FREIGHT CREEK	6000	5/01/98	0	.0	18.9	13.2
FROHNER MDWS PILLOW	6480	5/01/98	---	5.2	10.4	7.1
GARVER CREEK PILLOW	4250	5/01/98	---	1.0	13.6	3.3
GARVER CREEK	4250	5/01/98	0	.0	14.5	4.0
GOAT MOUNTAIN	7000	5/01/98	4	1.2	13.5	8.6
GOLD STONE	8100	4/28/98	51	18.2	25.9	18.0
GRASSHOPPER	7000	4/28/98	11	4.0	8.0	4.6
GRAVE CRK PILLOW	4300	5/01/98	---	2.4	17.3	9.0
GRIFFIN CR DIVIDE	5150	4/28/98	0	.0	13.6	6.3
HAND CREEK PILLOW	5030	5/01/98	---	.0	14.6	8.3
HAWKINS LAKE PILLOW	6450	5/01/98	---	16.2	36.0	30.4
HEBGEN DAM	6550	4/28/98	18	7.4	8.8	6.8
HELL ROARING DIVIDE	5770	4/30/98	46	19.6	42.1	30.1
HERRIG JUNCTION	4850	4/27/98	38	17.0	37.3	23.2
HOLBROOK	4530	5/01/98	0	.0	9.9	1.7
HOODOO BASIN PILLOW	6050	5/01/98	---	31.5	76.7	47.2
ICEBERG LAKE NO 3	5600	5/01/98	46	24.0	45.1	29.2
INDEPENDENCE	7850	4/30/98	31	11.3	24.4	17.0
INTERGAARD	6450	4/29/98	19	7.4	13.0	7.2
JOHNSON PARK	6450	4/30/98	0	.0	2.4	2.3
JOSEPHINE LOWER NO 9	4900	4/30/98	22	10.4	23.0	15.1
KIWANIS CAMP	3720	5/01/98	0	.0	.0	.2
KRAFT CREEK PILLOW	4750	5/01/98	---	.0	22.3	5.8
LAKE CREEK	6100	4/28/98	7	2.8	5.2	3.1
LAKEVIEW CANYON	6930	5/01/98	23	8.4	12.0	11.0
LAKEVIEW RDG. PILLOW	7400	5/01/98	---	9.5	14.9	9.2
LEMHI RIDGE PILLOW	8100	5/01/98	---	12.3	17.4	10.8
LICK CREEK PILLOW	6860	5/01/98	---	9.6	17.2	11.2
LITTLE PARK	7400	4/28/98	39	14.8	24.8	16.4
LOGAN CREEK	4300	4/28/98	0	.0	7.3	2.2
LONE MOUNTAIN PILLOW	8880	5/01/98	---	19.2	32.1	20.8
LOWER TWIN PILLOW	7900	5/01/98	---	17.7	28.4	21.9
LUBRECHT PILLOW	4680	5/01/98	---	.0	.0	1.7
LUBRECHT FOREST NO 3	5450	5/01/98	0	.0	6.6	3.0
LUBRECHT FOREST NO 4	4650	5/01/98	0	.0	.0	.2
LUBRECHT FOREST NO 6	4040	5/01/98	0	.0	.0	.1
LUBRECHT HYDROPLOT	4200	5/01/98	0	.0	.0	.1

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
MADISON PLT PILLOW	7750	5/01/98	---	20.2	42.6	23.8
MANY GLACIER PILLOW	4900	5/01/98	---	.0	16.3	8.0
MARIAS PASS	5250	5/04/98	7	3.2	27.0	14.4
MAYNARD CREEK	6210	4/29/98	30	11.2	24.8	15.2
MIDDLE MILL CREEK	7850	4/29/98	36	14.0	21.2	16.6
MILL CREEK	7500	4/30/98	23	9.0	19.5	11.0
MINERAL CREEK	4000	5/02/98	6	3.8	24.4	11.2
MONUMENT PK PILLOW	8850	5/01/98	---	19.7	36.7	23.8
MOSS PEAK PILLOW	6780	5/01/98	---	34.5	71.1	41.8
MOUNT ALLEN NO 7	5700	4/30/98	72	34.3	57.0	43.8
MT LOCKHART PILLOW	6400	5/01/98	---	13.9	29.9	21.9
MULE CREEK PILLOW	8300	5/01/98	---	16.4	26.3	17.0
NEVADA CREEK PILLOW	6480	5/01/98	---	9.4	22.2	12.5
NEVADA RIDGE PILLOW	7020	5/01/98	---	9.1	21.0	9.1
NEWTON MOUNTAIN	5600	4/30/98	56	25.3	--	35.4
NEZ PERCE CMP PILLOW	5650	5/01/98	---	8.0	21.4	11.7
NEZ PERCE CREEK	6600	4/28/98	7	2.1	9.4	3.4
NEZ PERCE PASS	6570	4/28/98	28	12.4	22.6	15.6
NOISY BASIN PILLOW	6040	5/01/98	---	34.7	72.8	44.0
N.F. ELK CR PILLOW	6250	5/01/98	---	4.9	16.4	9.6
NF JOCKO PILLOW	6330	5/01/98	---	30.2	70.7	46.3
N.E. ENTRANCE PILLOW	7350	5/01/98	---	.0	8.6	5.9
NOTCH	8500	4/28/98	58	21.8	25.6	18.5
OPHIR PARK	7150	5/03/98	18	6.2	22.2	17.4
PETERSON MEADOWS	7200	4/30/98	32	11.0	16.4	11.0
PICKFOOT CRK PILLOW	6650	5/01/98	---	1.3	11.7	4.8
PIEGAN PASS NO 6	5500	4/30/98	61	28.4	48.3	37.5
PIKE CREEK PILLOW	5930	5/01/98	---	12.1	40.2	27.8
PIPESTONE PASS	7200	4/29/98	21	7.4	10.0	5.0
PLACER BASIN PILLOW	8830	5/01/98	---	15.5	29.0	21.2
PORCUPINE PILLOW	6500	5/01/98	---	.0	11.5	3.9
POTOMAGETON PARK	7150	5/01/98	---	8.6E	15.9	9.4
PTARMIGAN	5800	5/01/98	55	25.2	45.8	36.2
RED MOUNTAIN	6000	4/27/98	26	10.9	26.7	17.5
RED TOP	5260	4/30/98	38	17.9	--	28.8
REVAIS CREEK	4800	4/29/98	0	.0	.0	.0
ROCK CREEK	5600	4/24/98	6	2.0	11.0	5.4
ROCK CREEK MEADOW	8160	4/28/98	59	17.3	33.4	24.2
ROCKER PEAK PILLOW	8000	5/01/98	---	15.1	20.6	17.7
ROCKY BOY PILLOW	4700	5/01/98	---	.0	.0	1.9
ROCKY BOY	4700	5/01/98	0	.0	.0	1.4
SACAJAWEA	6550	4/29/98	30	13.3	24.0	12.7
SADDLE MTN PILLOW	7900	5/01/98	---	22.6	42.9	27.6
SHORT CREEK PILLOW	7000	5/01/98	---	5.9	7.6	2.0
SHOWER FALLS PILLOW	8100	5/01/98	---	22.8	37.6	28.0
SILVER RUN PILLOW	6630	5/01/98	---	.0	.0	1.2
SKALKAHO PILLOW	7260	5/01/98	---	21.6	42.6	26.2
SLIDE ROCK MOUNTAIN	7100	4/25/98	39	13.6	24.6	17.2
SMUGGLER MINE	6960	4/28/98	22	8.4	11.3	9.0
S.F. SHIELDS PILLOW	8100	5/01/98	---	14.9	35.0	19.1
SPOTTED BEAR MTN.	7000	5/01/98	0	.0	17.1	9.6
SPUR PARK PILLOW	8100	5/01/98	---	17.9	30.3	23.6
SQUAW PEAK PILLOW	6150	5/01/98	---	8.4	30.3	14.9
STAHL PEAK PILLOW	6030	5/01/98	---	33.2	51.9	36.5
STEMPLE PASS	6600	4/29/98	10	3.2	14.8	10.3
STORM LAKE	7780	4/30/98	45	15.0	22.4	15.0
STRYKER BASIN	6180	4/27/98	70	29.7	47.2	35.8
STUART MOUNTAIN	7400	4/27/98	67	27.6	53.6	32.3
STUART MOUNTAIN PILL	7400	5/01/98	---	26.0	52.3	30.4
SUCKER CREEK	3960	5/01/98	0	.0	.0	.3

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90

TAYLOR ROAD	4080	5/01/98	0	.0	.0	.5
TEN MILE LOWER	6600	4/29/98	6	1.9	7.2	5.4
TEN MILE MIDDLE	6800	4/29/98	25	8.2	14.8	12.4
TEPEE CREEK PILLOW	8000	5/01/98	---	14.9	19.9	13.0
TIMBERLINE CREEK	8850	4/28/98	43	12.8	25.5	17.8
TIZER BASIN PILLOW	6840	5/01/98	---	7.7	12.8	10.3
TRAIL CREEK	7090	4/28/98	23	7.4	10.8	6.3
TRINKUS LAKE	6100	5/01/98	57	27.4	69.6	43.1
TRUMAN CREEK	4060	4/28/98	0	.0	2.3	.6
TV MOUNTAIN	6800	4/27/98	37	13.4	31.6	18.7
TWELVEMILE PILLOW	5600	5/01/98	---	.2	26.4	12.4
TWENTY-ONE MILE	7150	4/30/98	29	12.8	20.4	14.8
TWIN CREEKS	3580	5/01/98	0	.0	13.0	1.8
TWIN LAKES PILLOW	6400	5/01/98	---	29.3	69.4	39.8
UPPER HOLLAND LAKE	6200	5/01/98	53	24.8	52.8	35.2
WALDRON PILLOW	5600	5/01/98	---	2.3	14.4	6.5
WARM SPRINGS PILLOW	7800	5/01/98	---	21.2	36.7	24.9
WEASEL DIVIDE	5450	5/01/98	49	22.2	47.3	33.6
WEST YELLOWSTONE	6700	4/30/98	11	4.8	10.6	7.1
WHISKEY CREEK PILLOW	6800	5/01/98	---	14.9	22.8	15.2
WHITE MILL PILLOW	8700	5/01/98	---	23.1	42.5	26.3
WHITE PINE RIDGE	8850	4/28/98	20	5.9	10.4	5.8
WILLOW CREEK	6500	4/28/98	6	.3	7.2	4.4
WOOD CREEK PILLOW	5960	5/01/98	---	5.7	16.1	8.6
WRONG CREEK	5700	4/28/98	23	.8	16.2	9.2
WRONG RIDGE	6800	4/28/98	23	8.6	23.9	18.6

Montana Water Supply Outlook Report as of May 1, 1998

April had two distinct weather patterns. The first half was showery with below average temperatures and the second half dried out with above average temperatures. The first two weeks had storms that provided light to heavy snow water increases and cool temperatures that kept the snowpack in place. By the third week, temperatures warmed up started the snowpack melting at well above average rates.

Snowpack

As of May 1, mountain snow water content for Montana was 72 percent of average and 45 percent below last year. West of the Continental Divide, snow water content was 64 percent of average and 39 percent of last year. East of the Continental Divide, snow water content was 83 percent of average and 55 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	64	39
KOOTENAI	63	38
FLATHEAD	62	37 #
UPPER CLARK FORK	69	44 #
BITTERROOT	69	38
LOWER CLARK FORK	65	38
MISSOURI	78	51
MISSOURI HEADWATERS	91	59
JEFFERSON	92	59
MADISON	92	60
GALLATIN	87	58
MISSOURI MAINSTEM	52	35
HEADWATERS MAINSTEM	70	49
SMITH-JUDITH-MUSSELSHELL ..	61	42 #
SUN-TETON-MARIAS	38	25 #
ST. MARY	71	50
YELLOWSTONE (MONTANA & WYOMING) .	90	61
UPPER YELLOWSTONE	77	50
LOWER YELLOWSTONE (WYOMING) ..	100	73
WIND	112	73
SHOSHONE	86	57
BIGHORN	94	69
TONGUE	95	83
POWDER	95	78

- Basin snow water average is in the lowest five years of record.

Precipitation

The combined mountain and valley April precipitation across the state was 89 percent of average and 78 percent of last year, with water year precipitation 84 percent of average and 62 percent of last year.

West of the Continental Divide, combined mountain and valley April precipitation was 86 percent of average and 75 percent of last year and water year precipitation was 82 percent of average and 57 percent of last year. East of the Continental Divide, combined mountain and valley April precipitation was 90 percent of average and 79 percent of last year and water year precipitation was 86 percent of average and 66 percent of last year.

RIVER BASIN	APRIL % OF AVERAGE	WATER YEAR % OF AVERAGE
COLUMBIA	86	82
KOOTENAI	60	83
FLATHEAD	82	81
UPPER CLARK FORK	95	82
BITTERROOT	113	89
LOWER CLARK FORK	79	78
MISSOURI	98	87
JEFFERSON	119	96
MADISON	98	92
GALLATIN	80	81
MISSOURI MAINSTEM	80	81
SMITH-JUDITH-MUSSELSHELL	90	81
SUN-TETON-MARIAS	76	69
MILK	112	89
ST. MARY	81	79
YELLOWSTONE	91	94
UPPER YELLOWSTONE	728	86
LOWER YELLOWSTONE	105	104
WIND	103	103
SHOSHONE	68	99
BIGHORN	125	108
TONGUE	115	104
POWDER	175	126

Reservoirs

Major reservoir storage across the state was 118 percent of average and 135 percent of last year.

West of the Continental Divide, reservoir storage was 125 percent of average and 150 percent of last year. East of the Continental Divide, reservoir storage was 84 percent of average and 87 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	125	150
KOOTENAI	139	179
FLATHEAD	113	138
UPPER CLARK FORK	118	125
BITTERROOT	116	140
LOWER CLARK FORK	130	83
MISSOURI	110	117
JEFFERSON	114	127
MADISON	106	110
GALLATIN	158	141
MISSOURI MAINSTEM	106	129
SMITH-JUDITH-MUSSELSHELL	130	124
SUN-TETON-MARIAS	120	104
MILK	100	84
ST. MARY	40	28
ST. MARY AND MILK	86	77
YELLOWSTONE	102	117
UPPER YELLOWSTONE	115	106
LOWER YELLOWSTONE	102	117

Streamflow

SEASONAL STREAMFLOW FORECASTS

Streamflow forecasts, for the period May through July, across Montana were 66 percent of average and 47 percent of last years forecasts.

West of the Continental Divide streamflows, for the period May through July, are forecast to be 64 percent of average and 45 percent of last years forecasts. East of the Continental Divide, May through July streamflows, for the period May through July, are forecast to be 66 percent of average and 47 percent of last years forecasts.

Streamflow peaks, from snow melt, are forecast to occur much earlier than normal and have volumes below to well below average. Snow melt peak flows west of the divide are occurring the first week of May and are forecast to be completed by the second week of May. Most streams in the Missouri are forecast to reach their snow melt peaks during the second and third weeks of May and in the Yellowstone during the third or fourth week of May.

With the advanced melting of the high elevation snowpack and streamflows reaching early peak flows, mid to late season water shortages should be expected, especially for water users on unregulated streams.

RIVER BASIN	FORECASTS	FORECASTS
	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	64	45
KOOTENAI	75	62
FLATHEAD	66	45
UPPER CLARK FORK	55	36
BITTERROOT	65	42
LOWER CLARK FORK	61	41
MISSOURI	70	47
JEFFERSON	88	58
MADISON	84	56
GALLATIN	86	57
MISSOURI MAINSTEM	72	43
SMITH-JUDITH-MUSSELSHELL	68	50
SUN-TETON-MARIAS	56	39
MILK	34	28
ST. MARY	71	56
ST. MARY AND MILK	52	42
YELLOWSTONE	91	57
UPPER YELLOWSTONE	88	55
LOWER YELLOWSTONE	94	59

NOTE: The FORECAST AS % OF LAST YEAR column above, is this years forecast as a percent of last years forecast, not of what actually occurred.

Peak Streamflow Forecasts

WATERSHED

SNOWMELT PEAK FLOW DATES

COLUMBIA RIVER

Fisher and Yaak Rivers	Occurred on May 4
North Fork Flathead River near Columbia Falls	May 5 to May 11
Middle Fork Flathead River near West Glacier	Occurred May 4
Hungry Horse Reservoir inflow	May 5 to 11
Lower Willow and Nevada CK. Res. inflow	May 4 to May 9
Swan River	May 7 to May 13
Blackfoot River near Bonner	May 5 to May 11
Clark Fork above Missoula	May 5 to May 11
Clark Fork below Missoula	May 6 to May 12
Bitterroot River near Darby	May 5 to May 11
Middle Fork Rock Creek	May 12 to May 18

MISSOURI RIVER

Clark Canyon Res. inflow	May 17 to May 23
Ruby Res. inflow	May 20 to May 26
Big Hole near Melrose	May 12 to May 18
Hobgen Res. inflow	May 15 to May 21
Gallatin River	May 20 to May 27
Missouri at Toston	May 18 to May 24
Sheep Creek near White Sulphur Springs	May 8 to May 14
Smith River near Eagle Creek	May 18 to May 24
Gibson Reservoir inflow	May 7 to May 13
Swift Reservoir inflow	May 8 to May 14

YELLOWSTONE RIVER

All forecast stations	May 22 to May 29
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PEAK RANGE IN DAILY CFS	PEAK RANGE AS PERCENT OF AVERAGE	AVERAGE DAILY PEAK IN CFS
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COLUMBIA RIVER

Blackfoot near Bonner	3,500 to 5,500	37 to 57	9,588
Clark Fork above Missoula	5,200 to 10,000	31 to 59	16,738
Bitterroot near Darby	2,800 to 5,000	45 to 80	6,229
Clark Fork below Missoula	11,500 to 20,000	36 to 63	31,992
Clark Fork at St. Regis	20,000 to 30,000	50 to 75	39,984
North Fork Flathead near Columbia Falls	11,000 to 17,100	52 to 80	21,189
Middle Fork Flathead near West Glacier	10,000 to 14,500	45 to 65	22,463
Swan River near Big Fork	1,500 to 3,400	29 to 65	5,228
Hungry Horse Res. inflow	14,400 to 19,200	50 to 67	28,600
Nevada Creek Res. inflow	50 to 200	15 to 60	334
Fisher Creek near Libby	1,200 to 1,800	49 to 73	2,466
Yaak near Troy	4,000 to 5,500	66 to 91	6,021
Middle Fork Rock Creek	350 to 650	41 to 76	853

MISSOURI RIVER

Big Hole near Melrose	4,200 to 6,800	52 to 85	8,015
Ruby above Ruby Reservoir ..	700 to 1,100	68 to 110	1,037
Gallatin near Gateway	3,600 to 4,700	67 to 87	5,389
Gallatin near Logan	3,200 to 5,000	57 to 90	5,581
Missouri at Toston	12,000 to 18,500	63 to 89	19,042
S. Fk. Musselshell above Martinsdale	230 to 400	19 to 33	1,229
Clark Canyon Res. inflow	600 to 1,300	-- to --	-----
Hobgen Res. inflow	2,200 to 3,000	64 to 87	3,442
Gibson Res. inflow	3,200 to 5,500	-- to --	-----
Swift Res. inflow	250 to 500	-- to --	-----
Sheep Creek near White Sulphur Springs	90 to 70	42 to 80	212

YELLOWSTONE RIVER

Yellowstone at Corwin Springs	12,000 to 17,500	68 to 100	17,532
Yellowstone at Livingston	13,000 to 18,500	63 to 89	20,732
Boulder near Big Timber	3,300 to 4,900	63 to 94	5,226
Stillwater near Absarokee	3,900 to 6,500	59 to 98	6,601
Clarks Fork near Belfry	4,600 to 7,100	60 to 92	7,706
Yellowstone at Billings	24,000 to 37,000	56 to 87	42,716

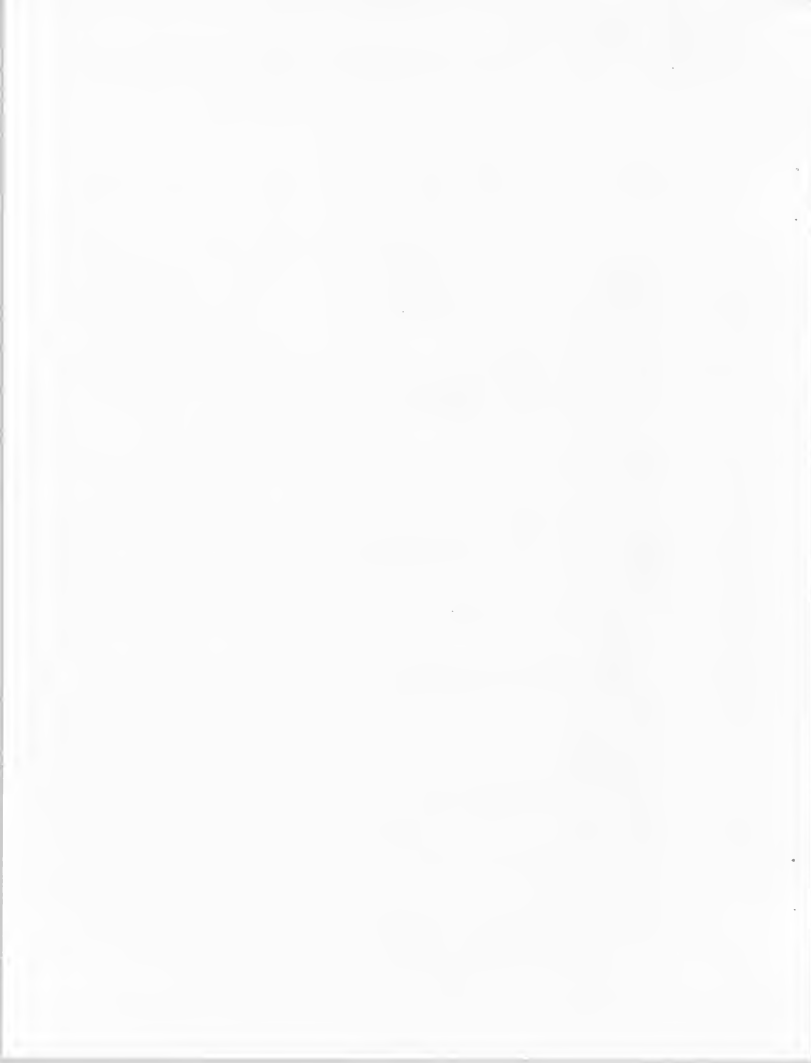
NOTE: The low number in the flow range represents the maximum daily flow that would be expected to occur with little rainfall during the peak snowmelt period. The high number in the flow range could be expected with moderate amounts of rain about the same time as maximum snowmelt runoff is occurring.

Surface Water Supply Index

The Surface Water Supply Index (SWSI) is an indicator of surface water supply conditions for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

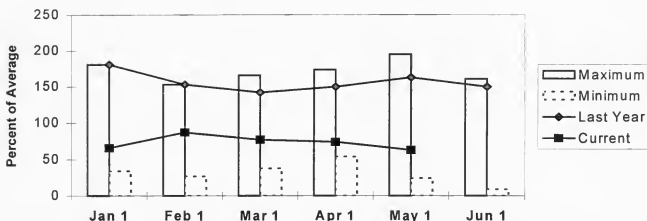
SWSI	Basin
-2.5	Kootenai River at Ft. Steele (Kootenai in Canada)
-1.9	Tobacco River
-2.3	Kootenai Ft. Steele to Libby Dam
-0.2	Kootenai River below Libby Dam
-3.3	Fisher River
-3.0	Yaak River
-2.7	North Fork Flathead River
-3.2	Middle FORK Flathead River
-1.5	South Fork Flathead River
-2.4	Flathead River at Columbia Falls
-2.7	Stillwater/Whitefish Rivers
-2.7	Swan River
-2.4	Flathead River at Polson
-2.8	Mission Valley
-1.8	Little Bitterroot River
-2.3	Clark Fork River above Rock Creek
-3.0	Blackfoot River
-2.7	Clark Fork River above Missoula
-2.2	Bitterroot River
-2.5	Clark Fork River below Bitterroot River
-2.3	Clark Fork River below Flathead River
+0.9	Beaverhead River
+0.2	Ruby River
-1.1	Big Hole River
-2.2	Boulder River (Jefferson)
-0.6	Jefferson River
+0.5	Madison River
-0.9	Gallatin River
-0.3	Missouri River above Canyon Ferry
+0.1	Missouri River below Canyon Ferry
-2.1	Smith River
-2.8	Sun River
-3.4	Teton River
-1.7	Birch/Dupuyer Creeks
-3.0	Marias River
-1.4	Musselshell River
-0.1	Missouri River above Ft. Peck
+0.2	Missouri River below Ft. Peck
-2.3	Milk River
-2.0	Yellowstone River above Livingston
-2.0	Shields River
-1.6	Boulder River (Yellowstone)
-2.2	Stillwater River
-2.0	Rock/Red Lodge Creeks
-2.5	Clarks Fork River
-2.3	Yellowstone River above Bighorn River
+0.3	Bighorn River below Bighorn Lake
-0.9	Little Bighorn River
-1.1	Yellowstone River below Bighorn River
-1.3	Tongue River
-0.9	Powder River



Kootenai River Basin in Montana

Snowpack conditions in the Kootenai River Basin of Montana were well below average and seventh lowest of record, for the period 1961 to 1997. In Canada snowpack conditions were well below average. Snow water content for the Kootenai in Montana was 63 percent of average and 38 percent of last year. Water content for the East Kootenai in Canada was 66 percent of average and 54 percent of last year.

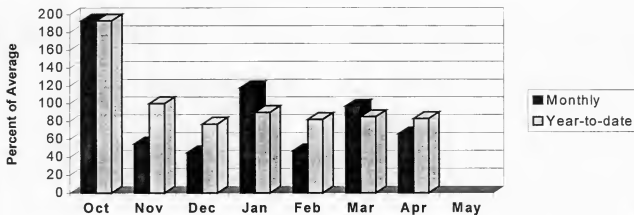
Kootenai Snow Water Equivalent



January maximum swe was established in 1997 and minimum was in 1977; February maximum swe was in 1997 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1974 and minimum swe was in 1977; May maximum swe was in 1974 and minimum swe was in 1977; and June maximum swe was in 1974 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during April was 63 percent of average and 57 percent of last year. Valley precipitation during April was 160 percent of average and 210 percent of last year. Water year precipitation, beginning October 1, 1997, was 83 percent of average and 58 percent of last year.

Kootenai Precipitation



Lake Kootenai storage, on the last day of April, was 139 percent of average and 179 percent of last year.

Streamflows, for the period May through July, are forecast to be 75 percent of average and 62 percent of last years forecasts.

The Fisher River near Libby is forecast to reach snow melt peak flows between May 4 and May 10 with daily peak flows ranging from 1,200 cfs to 1,800 cfs or 49 to 73 percent of average and the Yaak River near Troy is forecast to reach snow melt peak flows between May 4 and May 10 with daily peak flows ranging from 4,000 to 5,500 cfs or 66 to 91 percent of average.

Surface Water Supply Index (SWSI) was -2.5 in the Kootenai River at Ft. Steele (Kootenai in Canada); -1.9 in the Tobacco River; -2.3 in the Kootenai Ft. Steele to Libby Dam; -0.2 in the Kootenai River below Libby Dam; -3.3 in the Fisher River; and -3.0 in the Yaak River.

KOOTENAI RIVER BASIN in Montana
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
TOBACCO RIVER nr Eureka	MAY-JUL	46	58	66	60	74	86	110
	MAY-SEP	50	65	75	61	85	100	124
LIBBY RES Inflow (1,2)	MAY-JUL	3135	3785	4080	77	4375	5025	5301
	MAY-SEP	3768	4540	4890	78	5240	6012	6294
FISHER RIVER near Libby	MAY-JUL	35	50	60	37	70	85	163
	MAY-SEP	40	56	67	37	78	94	179
YAAK RIVER near Troy	MAY-JUL	143	168	185	50	202	227	372
	MAY-SEP	158	183	200	51	217	242	394
KOOTENAI at Leona (1,2)	MAY-JUL	3616	4410	4770	75	5130	5924	6390
	MAY-SEP	4233	5159	5580	75	6001	6927	7466

KOOTENAI RIVER BASIN in Montana Reservoir Storage (1000 AF) - End of April					KOOTENAI RIVER BASIN in Montana Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
	Year	This Year	Last Year	Avg			Last Yr	Average
LAKE KOOCANUSA	5748.0	3355.0	1875.0	2409.0	KOOTENAY in CANADA	24	54	68
					KOOTENAI MAINTSTEM	3	42	66
					TOBACCO	3	50	73
					FISHER	5	35	59
					YAAK	6	32	56
					KOOTENAI in MONTANA	16	39	64
					ab BONNERS FERRY	40	46	66

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

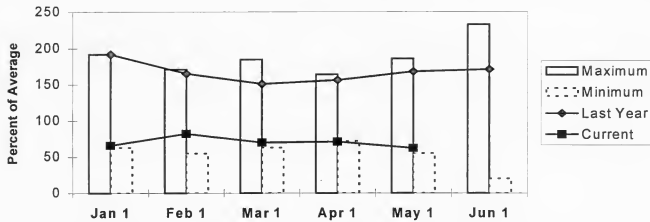
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

Flathead River Basin

Snowpack condition in the Flathead River Basin of Montana were well below average and third lowest of record, for the period 1961 to 1997. In Canada snowpack was well below average. Snow water content for the Flathead in Montana was 62 percent of average and 37 percent of last year. Snow water content for the Flathead in Canada was 70 percent of average and 44 percent of last year.

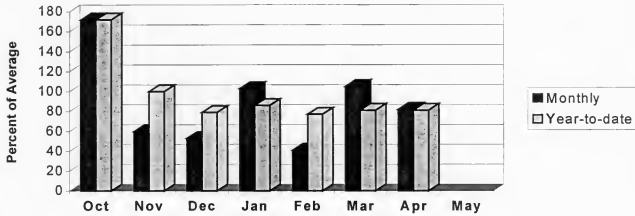
Flathead Snow Water Equivalent



January maximum swe was established in 1997 and minimum was in 1988; February maximum swe was in 1972 and minimum was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum was in 1992; May maximum swe was in 1972 and minimum was in 1992; and June maximum swe was in 1974 and minimum was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during April was 79 percent of average and 78 percent of last year. Valley precipitation during April was 121 percent of average and 147 percent of last year. Water year precipitation, beginning October 1, 1997, was 81 percent of average and 57 percent of last year.

Flathead Precipitation



Reservoir storage on the last day of April was 113 percent of average and 138 percent of last year. Combined Camas reservoir storage was 135 percent of average and 83 percent of last year; the combined Mission Valley reservoir storage was 86 percent of average and 120 percent of last year; Hungry Horse storage was 125 percent of average and 190 percent of last year; and Flathead Lake storage was 88 percent of average and 77 percent of last year.

Streamflows, for the period May through July, are forecast to be 66 percent of average and 45 percent of last years forecasts.

The North Fork Flathead near Columbia Falls is forecast to reach snow melt peak flows between May 5 and May 11 with daily peak flows ranging from 11,000 cfs to 17,000 cfs or 52 to 80 percent of average; the Middle Fork Flathead near West Glacier is forecast to reach snow melt peak flows between May 4 and May 10 with daily peak flows ranging from 350 cfs to 650 cfs or 41 to 76 percent of average; inflow to Hungry Horse Reservoir is forecast to reach snow melt peak flows between May 5 and May 11 with daily peak flows ranging from 14,400 to 19,200 or 50 to 67 percent of average; and the Swan near Big Fork is forecast to reach snow melt peak flows between May 7 and May 13 with daily peak flows ranging from 1,500 cfs to 3,400 cfs or 29 to 65 percent of average.

Surface Water Supply Index (SWSI) was -2.7 for the North Fork Flathead River; -3.2 for the Middle Fork Flathead River; -1.5 for the South Fork Flathead River; -2.4 for the Flathead River at Columbia Falls; -2.7 for the Stillwater/Whitefish Rivers; -2.7 for the Swan River; -2.4 for the Flathead River at Polson; -2.8 for the Mission Valley; and -1.8 for the Little Bitterroot River.

FLATHEAD RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
NF FLATHEAD nr Columbia Falls	MAY-JUL	852	925	975	66	1025	1098	1474
	MAY-SEP	967	1052	1110	67	1168	1253	1648
MF FLATHEAD nr West Glacier	MAY-JUL	797	891	955	66	1019	1113	1454
	MAY-SEP	876	986	1060	66	1134	1244	1604
HUNGRY HORSE Reservoir Inflow (1,2)	MAY-JUL	1003	1111	1160	65	1209	1317	1777
	MAY-SEP	1076	1196	1250	65	1304	1424	1911
FLATHEAD at Columbia Falls (2)	MAY-JUL	2668	2979	3190	66	3401	3712	4816
	MAY-SEP	2928	3286	3530	67	3774	4132	5294
STILLWATER nr Whitefish	MAY-JUL	59	78	90	58	102	121	155
	MAY-SEP	68	90	105	60	120	142	174
WHITEFISH nr Kalispell	MAY-JUL	46	54	60	65	66	75	92
	MAY-SEP	53	63	70	67	77	87	105
SWAN RIVER near Bigfork	MAY-JUL	261	290	310	63	330	359	491
	MAY-SEP	310	346	370	65	394	430	574
FLATHEAD Lake Inflow (1,2)	MAY-JUL	2919	3429	3660	66	3891	4401	5578
	MAY-SEP	3100	3740	4030	66	4320	4960	6114

FLATHEAD RIVER BASIN Reservoir Storage (1000 AF) - End of April					FLATHEAD RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CANAS (4)	45.2	38.6	46.6	28.5	NF FLATHEAD in CANADA	3	44	70
MISSION VALLEY (8)	100.0	42.8	35.6	49.7	NF FLATHEAD in MT.	8	44	67
HUNGRY HORSE	3451.0	2551.0	1341.0	2043.0	MIDDLE FORK FLATHEAD	5	36	53
FLATHEAD LAKE	1791.0	829.3	1082.0	937.2	SOUTH FORK FLATHEAD	7	34	61
					STILLWATER-WHITEFISH	10	32	56
					SWAN	8	44	71
					MISSION VALLEY	5	43	76
					LITTLE BITTERROOT-ASHLEY	6	4	14
					JOCKO	5	42	71
					FLATHEAD in MONTANA	39	37	63
					FLATHEAD BASIN	42	37	63

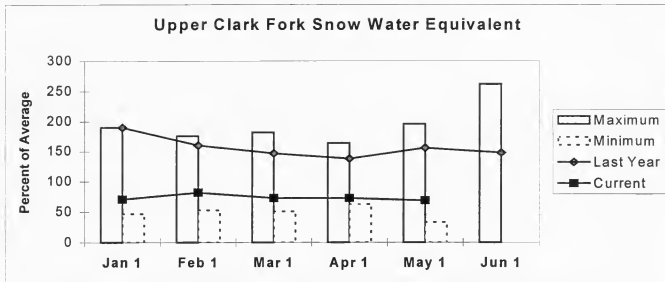
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

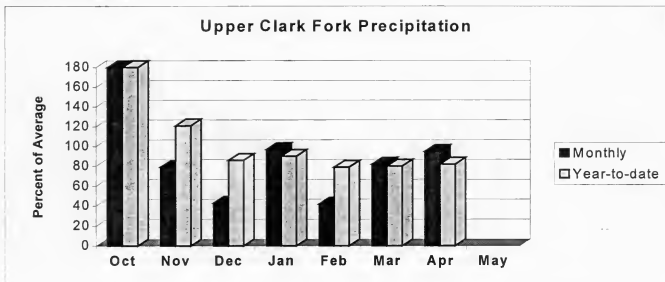
Upper Clark Fork River Basin

Snowpack conditions in the Upper Clark Fork River Basin were well below average and fifth lowest of record for the period 1961 to 1997. Snow water content was 69 percent of average and 44 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum was in 1994; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1975 and minimum swe was in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during April was 96 percent of average and 82 percent of last year. Valley precipitation during April was 83 percent of average and 103 percent of last year. Water year precipitation, beginning October 1, 1997, was 82 percent of average and 60 percent of last year.



Reservoir storage on the last day of April was 118 percent of average and 125 percent of last year. Georgetown Lake storage was 113 percent of average and 108 percent of last year; Lower Willow Creek storage was 148 percent of average and 169 percent of last year; and Nevada Creek storage was 121 percent of average and 166 percent of last year.

Streamflows, for the period May through July, are forecast to be 55 percent of average and 36 percent of last years forecasts.

The Blackfoot near Bonner is forecast to reach snow melt peak flows between May 5 and May 11 with daily peak flows ranging from 3,500 cfs to 5,500 cfs or 37 to 57 percent of average; the Clark Fork above Missoula is forecast to reach snow melt peak flows between May 5 and May 11 with daily peak flows ranging from 5,200 cfs to 10,000 cfs or 31 to 59 percent of average; inflow into Lower Willow Creek Reservoir is forecast to reach snow melt peak flows between May 4 and May 9; Nevada Creek near Finn is forecast to reach snow melt peak flows between May 4 and May 9 with daily peak flows ranging from 50 cfs to 200 cfs or 15 to 60 percent of average; and Middle Fork Rock Creek near Phillipsburg is forecast to reach snow melt peak flows between May 12 and May 18 with daily peak flows ranging from 350 cfs to 650 cfs or 41 to 76 percent of average.

Surface Water Supply Index (SWSI) was -2.3 for the Clark Fork River above Rock Creek; -3.0 for the Blackfoot River; and -2.7 for the Clark Fork River above Missoula.

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<< Drier		Future Conditions		Wetter >>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
WARM SPRINGS CK at Anaconda (2)	MAY-JUL	17.4	23	27	75	31	37	36
	MAY-SEP	22	29	33	75	37	44	44
LITTLE BLACKFOOT nr Garrison	MAY-JUL	12.7	37	53	77	69	93	69
	MAY-SEP	16.0	42	59	78	76	102	76
FLINT CK nr Southern Cross (2)	MAY-JUL	2.5	5.5	7.5	62	9.5	12.5	12.1
	MAY-SEP	2.8	6.5	9.0	61	11.5	15.2	14.7
FLINT CK bl Boulder Ck	MAY-JUL	13.0	23	30	60	37	47	50
	MAY-SEP	19.5	32	40	61	48	61	66
LOWER WILLOW CK RES Inflow	MAY-JUL		1.0	2.8	25	4.6	7.2	11.4
	MAY-SEP		1.6	3.5	29	5.4	8.1	12.3
MF ROCK CREEK nr Philipsburg	MAY-JUL	29	38	44	71	50	59	62
	MAY-SEP	33	42	49	71	56	66	69
ROCK CREEK near Clinton	MAY-JUL	100	140	167	63	194	234	264
	MAY-SEP	117	161	190	63	219	263	300
NEVADA CREEK near Finn	MAY-JUL	-0.4	3.2	5.7	38	8.2	11.8	15.2
	MAY-SEP	0.4	4.2	6.8	40	9.4	13.2	16.9
CLEARWATER nr Clearwater	MAY-JUL	46	59	68	51	77	90	133
	MAY-SEP	44	61	73	51	85	102	142
BLACKFOOT RIVER near Bonner	MAY-JUL	300	360	400	56	440	500	714
	MAY-SEP	357	421	465	58	509	573	805
CLARK FORK ab Milltown	MAY-JUL	123	234	310	57	386	497	549
	MAY-SEP	171	292	375	58	458	579	652
CLARK FORK ab Missoula	MAY-JUL	451	617	730	58	843	1009	1263
	MAY-SEP	563	740	860	59	980	1157	1457

UPPER CLARK FORK RIVER BASIN Reservoir Storage (1000 AF) - End of April					UPPER CLARK FORK RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GEORGETOWN LAKE	31.0	28.1	25.9	24.9	CLARK FORK ab FLINT CRK	14	49	75
LOWER WILLOW CREEK	4.9	4.9	2.9	3.3	FLINT CREEK	6	56	89
NEVADA CREEK	12.6	12.3	7.4	10.2	ROCK CREEK	5	55	87
					CLARK FORK ab BLACKFOOT	22	49	79
					BLACKFOOT	16	33	53
					UPPER CLARK FORK BASIN	35	45	69

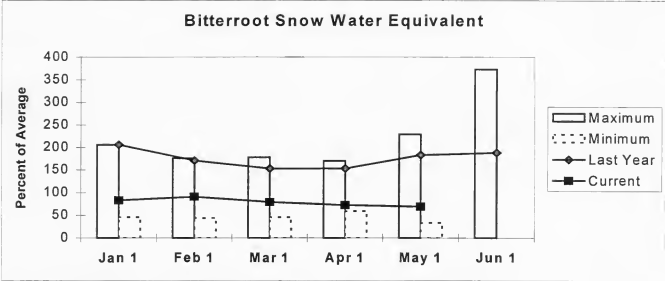
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

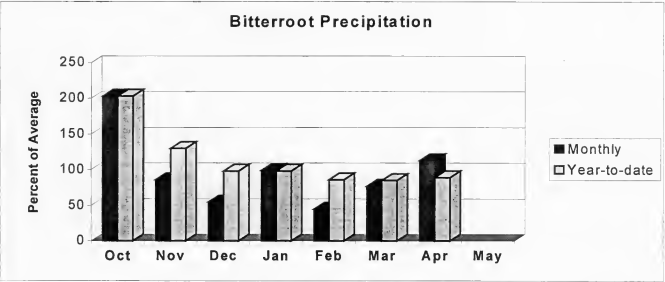
Bitterroot River Basin

Snowpack conditions in the Bitterroot River Basin were well below average and seventh lowest of record for the period 1961 to 1997. Snow water content was 69 percent of average and 38 percent below last year.



January maximum swe was established in 1997 and minimum swe in 1977; February maximum swe was in 1972 and minimum was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1977; May maximum swe was in 1972 and minimum swe was in 1987; and June maximum swe was 1972 and 1974 and minimum swe was in 1987 and 1992. Average is for the period 1961 through 1990.

Mountain precipitation during April was 106 percent of average and 79 percent of last year. Valley precipitation during April was 190 percent of average and 110 percent of last year. Water year precipitation, beginning October 1, 1997, was 89 percent of average and 60 percent of last year.



Reservoir storage, on the last day of April, was 116 percent of average and 140 percent of last year. Painted Rocks Lake storage was 103 percent of average and 178 percent of last year and Como storage was 129 percent of average and 120 percent of last year.

Streamflows, for the period May through July, are forecast to be 65 percent of average and 42 percent of last years forecasts.

The Bitterroot near Darby is forecast to reach snow melt peak flows between May 5 and May 11 with daily peak flows ranging from 2,800 cfs to 5,000 cfs or 45 to 80 percent of average.

Surface Water Supply Index (SWSI) was -2.2 for the Bitterroot River.

BITTERROOT RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
WF BITTERROOT nr Conner (2)	MAY-JUL	66	83	95	71	107	124	134
	MAY-SEP	74	93	105	71	117	136	148
BITTERROOT nr Darby	MAY-JUL	200	253	290	67	327	380	435
	MAY-SEP	235	289	325	67	361	415	484
ROCK CK nr Darby (2)	MAY-JUL	39	45	49	71	53	59	69
	MAY-SEP	42	48	52	71	56	63	73
SKALKWAHO CK nr Hamilton	MAY-JUL	21	26	29	67	32	37	43
	MAY-SEP	26	31	35	70	39	44	50
BURNT FORK CK nr Stevensville (2)	MAY-JUL	13.1	17.1	19.8	73	23	27	27
	MAY-SEP	16.1	21	24	75	27	32	32
BITTERROOT at Missoula	MAY-JUL	530	643	720	63	797	910	1149
	MAY-SEP	594	714	795	63	876	996	1266

BITTERROOT RIVER BASIN Reservoir Storage (1000 AF) - End of April					BITTERROOT RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average	
		This Year	Last Year	Avg			Last Yr	Average
PAINTED ROCKS LAKE	31.7	20.6	11.6	20.0	WEST FORK BITTERROOT	3	49	78
COMO	34.9	26.0	21.7	20.2	EAST SIDE BITTERROOT	5	46	83
					WEST SIDE BITTERROOT	3	29	55
					BITTERROOT BASIN	10	38	69

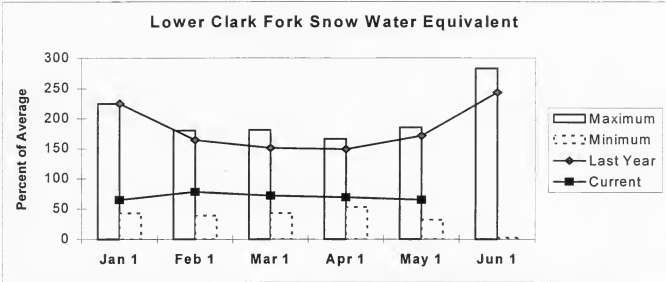
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

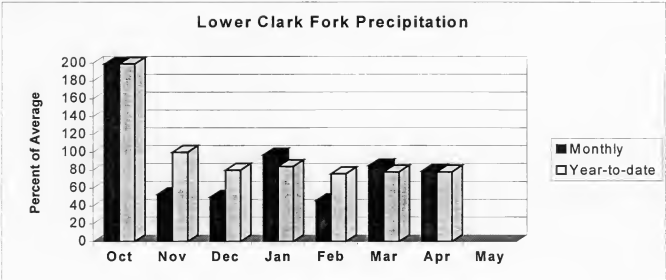
Lower Clark Fork River Basin

Snowpack conditions in the Lower Clark Fork River Basin were well below average and sixth lowest of record, for the period 1961 to 1997. Snow water content was 65 percent of average and 38 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum swe was in 1981; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1974 and minimum swe was in 1977. Average is for the period 1961 through 1990.

Mountain precipitation during April was 81 percent of average and 60 percent of last year. Valley precipitation during April was 69 percent of average and 42 percent of last year. Water year precipitation, beginning October 1, 1997, was 78 percent of average and 54 percent of last year.



Noxon Rapids storage, on the last day of April, was 130 percent of average and 83 percent of last year.

Streamflows, for the period May through July, are forecast to be 61 percent of average and 41 percent of last year.

The Clark Fork below Missoula is forecast to reach snow melt peak flows between May 6 and May 12 with daily peak flows ranging from 11,500 cfs to 20,000 cfs or 36 percent to 63 percent of average and the Clark Fork at St. Regis is forecast to have daily peak flows ranging from 20,000 cfs to 30,000 cfs or 50 percent to 75 percent of average.

Surface Water Supply Index (SWSI) was -2.5 for the Clark Fork River below Bitterroot River and -2.3 for the Clark Fork River below Flathead River.

LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<===== Drier =====		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	
CLARK FORK ab Missoula	MAY-JUL	451	617	730	58	843	1009	1263
	MAY-SEP	563	740	860	59	980	1157	1457
CLARK FORK b1 Missoula	MAY-JUL	999	1262	1440	60	1618	1881	2413
	MAY-SEP	1182	1461	1650	61	1839	2118	2724
CLARK FORK at St. Regis (1)	MAY-JUL	1207	1691	1910	61	2129	2613	3152
	MAY-SEP	1398	1942	2190	62	2438	2982	3561
CLARK FORK nr Plains (1,2)	MAY-JUL	4139	5185	5660	63	6135	7181	9052
	MAY-SEP	4648	5812	6340	63	6868	8032	10080
THOMPSON RIVER nr Thompson Falls	MAY-JUL	49	70	85	50	100	121	169
	MAY-SEP	60	84	100	51	116	140	196
PROSPECT CREEK at Thompson Falls	MAY-JUL	40	49	55	59	61	70	94
	MAY-SEP	44	54	60	58	66	76	103
CLARK FK at Whitehorse Rpd (1,2)	MAY-JUL	4338	5584	6150	61	6716	7962	10020
	MAY-SEP	4887	6278	6910	62	7542	8933	11200

LOWER CLARK FORK RIVER BASIN Reservoir Storage (1000 AF) - End of April					LOWER CLARK FORK RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
NOXON RAPIDS	335.0	272.1	326.8	208.7	LOWER CLARK FORK	11	38	65
					CLARK FORK BASIN	45	41	67
					CLARK FK ab PEND ORIELLE	89	39	65
					COLUMBIA in MONTANA	94	39	64
					COLUMBIA RIVER BASIN	120	42	66

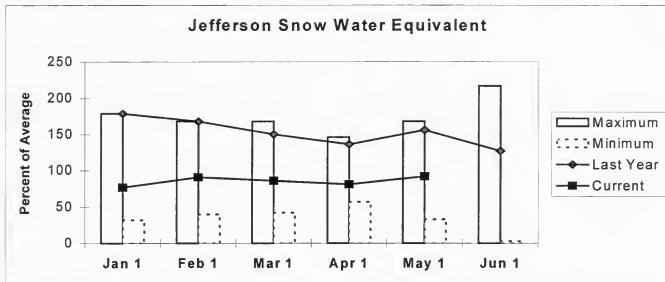
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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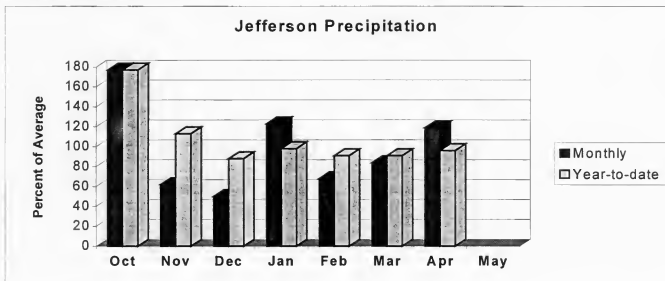
Jefferson River Basin

Snowpack conditions in the Jefferson River Basin were near average. Snow water content was 92 percent of average and 59 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1997 and minimum was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1972 and minimum was in 1977; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 1982 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during April was 118 percent of average and 89 percent of last year. Valley precipitation during April was 123 percent of average and 90 percent of last year. Water year precipitation, beginning October 1, 1997, was 96 percent of average and 71 percent of last year.



Reservoir storage, on the last day of April, was 114 percent of average and 127 percent of last year. Lima storage was 130 percent of average and 152 percent of last year; Clark Canyon storage was 111 percent of average and 119 percent of last year; and Ruby River storage was 104 percent of average and 125 percent of last year.

Streamflows, for the period May through July, are forecast to be 88 percent of average and 58 percent of last year.

The Big Hole near Melrose is forecast to reach snow melt peak flows from May 12 to May 18 with daily peak flows ranging from 4,200 cfs to 6,800 cfs or 52 percent to 85 percent of average; the Ruby River above Ruby Reservoir is forecast to reach snow melt peak flows between May 20 and May 26 with daily peak flows ranging from 700 cfs to 1,100 cfs or 68 percent to 110 percent of average; the Missouri at Toston is forecast to reach peak flows between May 18 and May 24 with daily peak flow ranging from 12,000 cfs to 18,500 cfs or 63 to 97 percent of average; and inflow into Clark Canyon Reservoir is forecast to reach snow melt peak flows between May 17 and May 23 with daily peak flows ranging from 600 cfs to 1,300 cfs.

Surface Water Supply Index (SWSI) was -0.6 for the Jefferson River; +0.9 for the Beaverhead River; +0.2 for the Ruby River; -1.1 for the Big Hole River; and -2.2 for the Boulder River.

JEFFERSON RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
RED ROCK RIVER near Monida (2)	MAY-JUL	36	50	60	83	70	84	72
	MAY-SEP	37	54	65	81	77	94	80
BEAVERHEAD RIVER near Grant (2)	MAY-JUL	29	59	80	87	101	131	92
	MAY-SEP	28	71	100	87	129	172	115
BEAVERHEAD RIVER at Barretts (2)	MAY-JUL	61	87	105	85	123	149	124
	MAY-SEP	85	115	135	87	155	185	155
RUBY RIVER near Alder	MAY-JUL	41	55	65	89	75	89	73
	MAY-SEP	51	68	80	90	92	109	89
BIG HOLE RIVER near Melrose	MAY-JUL	319	415	480	87	545	641	555
	MAY-SEP	348	450	520	85	590	692	612
BOULDER RIVER near Boulder	MAY-JUL	41	55	65	87	75	89	75
	MAY-SEP	44	59	70	86	81	97	81
WILLOW CREEK near Harrison	MAY-JUL	5.3	10.2	13.5	89	16.8	22	15.1
	MAY-SEP	4.7	10.9	15.1	87	19.3	26	17.4
JEFFERSON RIVER near Three Forks (2)	MAY-JUL	372	549	670	90	791	968	749
	MAY-SEP	423	618	750	89	882	1077	841

JEFFERSON RIVER BASIN Reservoir Storage (1000 AF) - End of April					JEFFERSON RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
LINA	84.0	71.5	46.9	55.1	BEAVERHEAD	15	64	97
CLARK CANYON	255.6	181.0	151.5	162.4	RUBY	9	68	93
RUBY RIVER	38.8	37.6	30.2	36.3	BIGHOLE	16	55	90
					BOULDER	8	56	88
					JEFFERSON RIVER BASIN	40	59	92

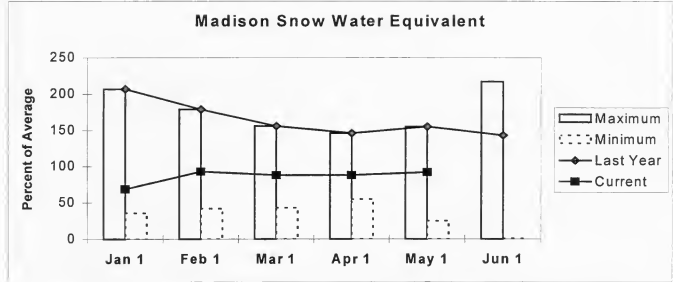
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The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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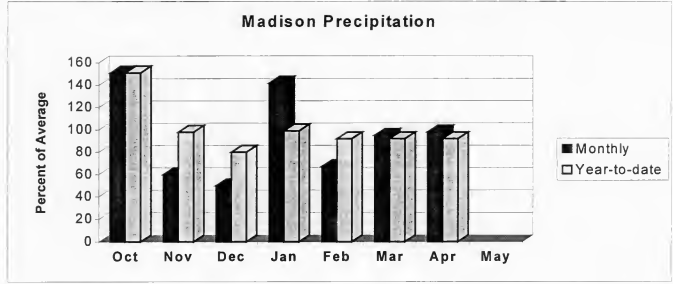
Madison River Basin

Snowpack conditions in the Madison River Basin were near average. Snow water content was 92 percent of average and 60 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1997 and minimum was in 1977; March maximum swe was in 1997 and minimum was in 1977; April maximum swe was in 1997 and minimum was in 1977; May maximum swe was in 1997 and minimum swe was in 1977; and June maximum swe was in 1995 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain and valley precipitation during April was 99 percent of average and 87 percent of last year. Water year precipitation, beginning October 1, 1997, was 92 percent of average and 66 percent of last year.



Reservoir storage, on the last day of April, was 106 percent of average and 110 percent of last year. Ennis Lake storage was 93 percent of average and 100 percent of last year and Hebgen Lake storage was 107 percent of average and 111 percent of last year.

Streamflows, for the period May through July, are forecast to be 84 percent of average and 56 percent of last year.

Inflow into Hebgen Reservoir is forecast to reach snow melt peak flows between May 15 and May 21 with daily peak flows ranging from 2,200 cfs to 3,000 cfs or 64 to 87 percent of average.

Surface Water Supply Index (SWSI) was +0.5 for the Madison River.

MADISON RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
MADISON RIVER near Grayling (2)	MAY-JUL	218	246	265	83	284	312	321
MADISON RIVER near Grayling (2)	MAY-SEP	302	337	360	84	383	418	428
MADISON RIVER near McAllister (2)	MAY-JUL	392	444	480	85	516	568	562
	MAY-SEP	533	594	635	87	676	737	731

MADISON RIVER BASIN Reservoir Storage (1000 AF) - End of April					MADISON RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ENNIS LAKE	41.0	32.8	32.8	35.1	MADISON abv HEBGEN LAKE	5	55	92
HEBGEN LAKE	377.5	264.5	237.6	246.1	MADISON b1w HEBGEN LAKE	11	63	93
					MADISON RIVER BASIN	16	60	92

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

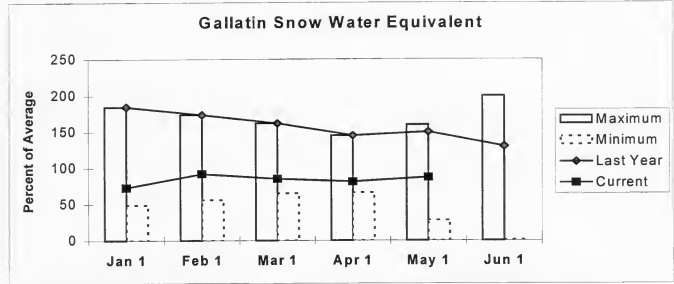
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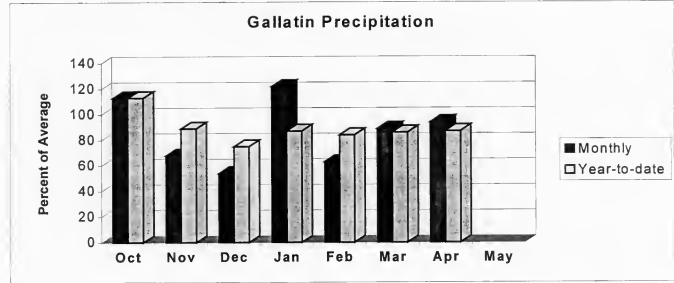
Gallatin River Basin

Snowpack conditions in the Gallatin River Basin were below average. Snow water content was 87 percent of average and 58 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1966; February maximum swe was in 1997 and minimum was in 1981; March maximum swe was in 1997 and minimum was in 1977 and 1987; April maximum swe was in 1997 and minimum was in 1987; May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 1975 and minimum in 1987. Average is for the period 1961 through 1990.

Mountain precipitation during April was 95 percent of average and 89 percent of last year. Valley precipitation during April was 71 percent of average and 57 percent of last year. Water year precipitation, beginning October 1, 1997, was 87 percent of average and 63 percent of last year.



Middle Creek storage, on April 20, was 158 percent of average and 141 percent of last year.

Streamflows, for the period May through July, are forecast to be 86 percent of average and 57 percent of last year.

The Gallatin River near Gateway is forecast to reach snow melt peak flows between May 20 and May 26 with daily peak flows ranging from 3,600 cfs to 4,700 cfs or 67 to 87 percent of average and the Gallatin River near Logan is forecast to reach snow melt peak flows between May 21 and May 27 with daily peak flows ranging from 3,200 cfs to 5,000 cfs or 57 to 90 percent of average.

Surface Water Supply Index (SWSI) was -0.9 for the Gallatin River.

GALLATIN RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	
GALLATIN RIVER near Gateway	MAY-JUL	297	333	358	88	383	419	409
	MAY-SEP	362	401	428	88	455	494	486
E & W FK HYALITE CREEK near Bozeman	MAY-JUL	15.2	17.2	18.5	88	19.8	22	21
	MAY-SEP	18.2	21	22	88	24	26	25
HYALITE CREEK nr Bozeman (2)	MAY-JUL	22	26	29	88	32	36	33
	MAY-SEP	26	31	34	87	37	42	39
GALLATIN RIVER at Logan (2)	MAY-JUL	240	312	360	84	408	480	429
	MAY-SEP	304	379	430	84	481	556	512

GALLATIN RIVER BASIN Reservoir Storage (1000 AF) - End of April					GALLATIN RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average	
		This Year	Last Year	Avg			Last Yr	Average
MIDDLE CREEK	10.2	7.6	5.4	4.8	UPPER GALLATIN	7	61	88
					HYALITE	3	59	83
					BRIDGER	3	50	86
					GALLATIN RIVER BASIN	13	58	87
					MISSOURI HEADWATERS	62	59	91

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

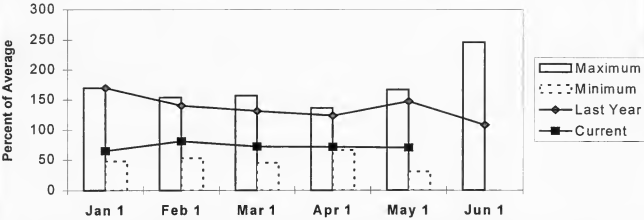
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Missouri Mainstem River Basin

Snowpack conditions in the Headwaters Missouri Mainstem were well below average. Snow water content was 70 percent of average and 49 percent of last year.

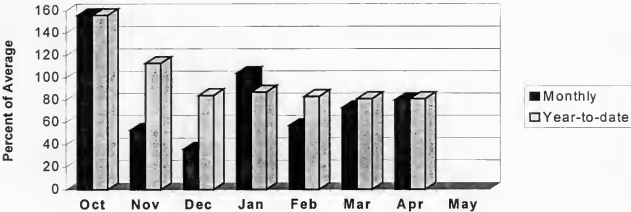
Headwaters Mainstem Snow Water Equivalent



January maximum swe was established in 1997 and minimum swe in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1961; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain precipitation during April was 80 percent of average and 72 percent of last year. Valley precipitation during April was 73 percent of average and 102 percent of last year. Water year precipitation, beginning October 1, 1997, was 80 percent of average and 84 percent of last year.

Headwaters Mainstem Precipitation



Reservoir storage, on the last day of April, was 106 percent of average and 129 percent of last year. Canyon Ferry Lake storage was 105 percent below average and 134 percent below last year; Helena Valley storage was 116 percent of average and 99 percent of last year; Lake Helena storage was 108 percent of average and 100 percent of last year; Hauser & Helena storage was 104 percent of average and 100 percent of last year; Holter Lake storage was 109 percent of average and 100 percent of last year; and Fort Peck Lake storage was 103 percent of average and 96 percent of last year.

Streamflows, for the period May through July, are forecast to be 72 percent of average and 43 percent of last year.

Surface Water Supply Index (SWSI) was -0.3 for the Missouri River above Canyon Ferry; +0.1 for the Missouri River below Canyon Ferry; -0.1 for the Missouri River above Ft. Peck; and +0.2 for the Missouri River below Ft. Peck.

MISSOURI MAINSTEM RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier -----		Future Conditions		----- Wetter ----->>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
MISSOURI RIVER at Toston (2)	MAY-JUL	783	1192	1470	85	1748	2157	1730
	MAY-SEP	1222	1441	1750	85	2059	2278	2071
PRICKLY PEAR CREEK near Clancy	MAY-JUL	2.2	9.7	14.8	74	19.9	27	20
	MAY-SEP	3.6	12.2	18.0	75	24	32	24
SUN RIVER at Gibson Dam (2)	MAY-JUL	152	213	255	58	297	358	441
	MAY-SEP	180	245	290	59	335	400	489
MISSOURI RIVER at Fort Benton (2)	MAY-JUL	736	1441	1920	74	2399	3104	2597
	MAY-SEP	1722	1841	2360	74	2879	3316	3188
MARIAS RIVER near Shelby (2)	MAY-JUL	100	166	210	54	254	320	387
	MAY-SEP	121	186	230	54	274	339	428
MISSOURI RIVER at Virgelle (2)	MAY-JUL	823	1595	2120	70	2645	3417	3030
	MAY-SEP	2009	1948	2540	70	3132	3725	3652
MISSOURI RIVER near Landusky (2)	MAY-JUL	979	1766	2300	70	2834	3621	3279
	MAY-SEP	2219	2211	2790	70	3369	4120	3962
MISSOURI RIVER below Fort Peck (2)	MAY-JUL	768	1680	2300	69	2920	3832	3327
	MAY-SEP	2042	1947	2620	69	3293	4008	3781
LAKE SAKAKAWEA Inflow (2)	MAY-JUL	4084	5999	7300	89	8601	10516	8209
	MAY-SEP	6567	7224	8580	89	9936	11493	9658

MISSOURI MAINSTEM RIVER BASIN Reservoir Storage (1000 AF) - End of April					MISSOURI MAINSTEM RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CANYON FERRY LAKE	2043.0	1581.0	1183.0	1501.0	MISSOURI MAINSTEM	10	49	70
HELENA VALLEY	9.2	8.7	8.8	7.5	SMITH-JUDITH-MUSSELSHELL	13	42	61
LAKE HELENA	10.4	10.9	10.9	10.1	SUN-TETON-MARIAS	14	25	38
HAUSER & HELENA	61.9	63.1	63.1	60.4	MISSOURI abv FT PECK	36	35	52
HOLTER LAKE	81.9	80.8	80.6	73.9	MILK RIVER BASIN	6	0	0
FORT PECK LAKE (MAF)	18.9	15.5	16.2	15.0	MISSOURI MAINSTEM BASIN	41	35	52

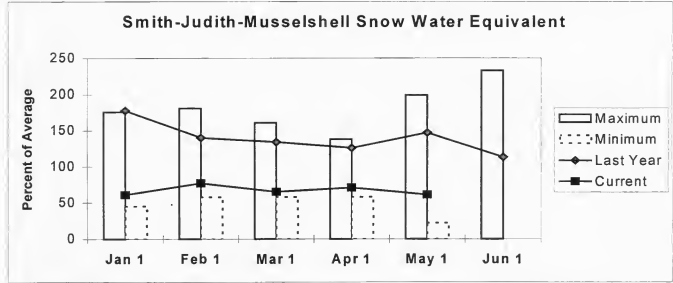
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

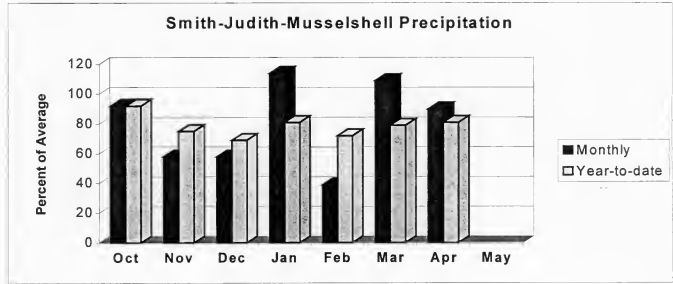
Smith-Judith-Musselshell River Basins

Snowpack conditions in the Smith-Judith-Musselshell River Basins were well below average and fourth lowest of record, for the period 1961 to 1997. Snow water content in the Smith River was 72 percent of average and 48 percent of last year; the Judith River was 60 percent of average and 44 percent of last year; and the Musselshell River was 65 percent of average and 43 percent of last year.



January maximum swe was established in 1997 and minimum swe in 1988; February maximum swe was in 1978 and minimum swe was in 1987; March maximum swe was in 1978 and minimum swe was in 1987; April maximum swe was in 1970 and minimum swe was in 1992; and May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation during April was 90 percent of average and 73 percent of last year. The Smith River was 87 percent of average and 78 percent of last year; The Judith River was 77 percent of average and 56 percent of last year; and the Musselshell River was 134 percent of average and 107 percent of last year. The basin water year precipitation, beginning October 1, 1997, was 81 percent of average and 66 percent of last year.



Reservoir storage, on the last day of April, was 32 percent of average and 113 percent of last year. Smith River storage was 125 percent of average and 111 percent of last year; Newlan storage was 114 percent of average; Blair storage was 98 percent of average and 110 percent of last year; Martinsdale storage was 168 percent of average and 139 percent of last year; and Deadman's Basin was 128 percent of average and 108 percent of last year.

Streamflows, for the period May through July, are forecast to be 68 percent of average and 50 percent of last year.

Sheep Creek near White Sulphur Springs is forecast to reach snow melt peak flows between May 8 and May 14 with daily peak flows ranging from 90 cfs to 170 cfs or 42 to 80 percent of average; and the Smith River at Fort Logan is forecast to reach snow melt peak flows between May 18 and May 24.

Surface Water Supply Index (SWSI) was -2.1 for the Smith River and -1.4 for the Musselshell River.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
SHEEP CREEK nr White Sulphur Springs	MAY-JUL	7.3	9.3	10.7	66	12.1	14.1	16.3
	MAY-SEP	9.5	11.7	13.2	69	14.7	16.9	19.2
SMITH RIVER blw Eagle Creek	MAY-JUL	33	51	63	73	75	93	86
	MAY-SEP	31	60	80	75	100	129	107
NF MUSSELSHELL near Delpine	MAY-JUL	0.43	1.36	2.00	53	2.64	3.57	3.80
	MAY-SEP	0.65	1.75	2.50	54	3.25	4.35	4.60
SF MUSSELSHELL abv Martinsdale	MAY-JUL	1.2	17.2	28	61	39	55	46
	MAY-SEP	1.9	18.6	30	60	41	58	50

SMITH-JUDITH-MUSSELSHELL RIVER BASINS					SMITH-JUDITH-MUSSELSHELL RIVER BASINS			
Reservoir Storage (1000 AF) - End of April					Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
SMITH RIVER	10.6	11.4	10.3	9.1	SMITH	6	48	72
NEWLAN CREEK	12.4	10.0	---	8.8	JUDITH	7	44	60
BAIR	7.0	5.7	5.2	5.8	MUSSELSHELL	6	43	65
MARTINSDALE	23.1	20.8	15.0	12.4	SMITH-JUDITH-MUSSELSHELL	13	42	61
DEADMAN'S BASIN	72.2	69.8	64.5	54.4				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

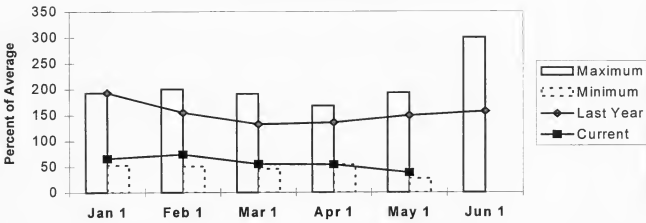
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

Sun-Teton-Marias River Basins

Snowpack conditions in the Sun-Teton-Marias River Basins were well below average and second lowest of record, for the period 1961 to 1997. Snow water content in the Sun River was 42 percent of average and 527 percent of last year; the Teton River was 34 percent of average and 22 percent of last year; and the Marias River was 35 percent above average and 25 percent of last year.

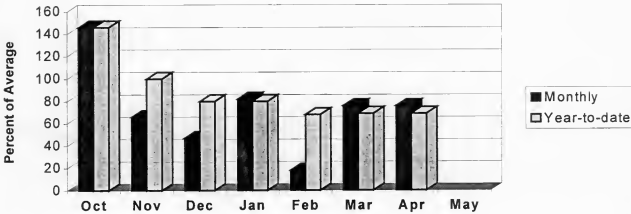
Sun-Teton-Marias Snow Water Equivalent



January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1984; April maximum swe was in 1972 and minimum swe was in 1984; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum was in 1982 and minimum swe was in 1992. Average is for the period 1961 through 1990.

Mountain and valley precipitation during April was 76 percent of average and 69 percent of last year. Water year precipitation, beginning October 1, 1997, was 69 percent of average and 57 percent of last year. Mountain and valley precipitation in the Sun River during April was 104 percent of average and 93 percent of last year; the Teton River was 69 percent of average and 66 percent of last year; and the Marias River was 72 percent of average and 63 percent of last year.

Sun-Teton-Marias Precipitation



Reservoir storage, on the last day of April, was 120 percent of average and 104 percent of last year. Gibson storage was 108 percent of average and 154 percent of last year; Pishkun storage was 104 percent of average and 136 percent of last year; Willow Creek storage was 127 percent of average and 254 percent of last year; Lower Two Medicine Lake storage was 142 percent of average and 168 percent of last year; Four Horns Lake storage was 85 percent of average and 89 percent of last year; Swift storage was 123 percent of average and 170 percent of last year; Lake Frances storage was 99 percent of average and 99 percent of last year; and Lake Elwell (Tiber) storage was 125 percent of average and 97 percent of last year.

Streamflows, for the period May through July, are forecast to be 56 percent of average and 39 percent of last year.

Inflow into Gibson Reservoir is forecast to reach snow melt peak flows between May 7 and May 13 with daily peak flows ranging from 3,200 cfs to 5,500 cfs; inflow into Swift Reservoir is forecast to reach snow melt peak flows between May 8 and May 14 with daily peak flows ranging from 250 cfs to 500 cfs.

Surface Water Supply Index (SWSI) was -2.8 for the Sun River; -3.4 for the Teton River; -3.0 for the Marias River; and -1.7 for Birch/Dupuyer Creeks.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
SUN RIVER at Gibson Dam (2)	MAY-JUL	152	213	255	58	297	358	441
	MAY-SEP	180	245	290	59	335	400	489
TWO MEDICINE RIVER near Browning (2)	MAY-JUL	43	80	105	56	130	167	187
	MAY-SEP	53	90	115	58	140	177	200
BADGER CREEK near Browning (2)	MAY-JUL	27	42	52	56	62	78	93
	MAY-SEP	37	53	64	58	75	91	110
SWIFT RESERVOIR Inflow near Dupuyer	MAY-JUL	14.1	26	34	56	42	54	61
	MAY-SEP	21	34	42	58	50	63	73
DUPUYER CREEK near Valier	MAY-JUL	-5.1	2.5	7.6	58	12.7	20	13.1
	MAY-SEP	-4.7	3.2	8.5	57	13.8	22	15.0
CUT BANK CREEK at Cut Bank	MAY-JUL	24	34	40	53	46	56	75
	MAY-SEP	29	39	46	55	53	63	84
MARIAS RIVER near Shelby (2)	MAY-JUL	100	166	210	54	254	320	387
	MAY-SEP	121	186	230	54	274	339	428

SUN-TETON-MARIAS RIVER BASINS
Reservoir Storage (1000 AF) - End of April

SUN-TETON-MARIAS RIVER BASINS
Watershed Snowpack Analysis - May 1, 1998

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GIBSON	99.1	61.5	40.0	57.2	SUN	7	27	42
PISHKUN	32.0	26.4	19.4	25.4	TETON	4	22	34
WILLOW CREEK	32.2	31.2	12.3	24.6	MARIAS	6	25	35
LOWER TWO MEDICINE LAKE	11.9	12.6	7.5	8.9	SUN-TETON-MARIAS	14	25	38
FOUR HORNS LAKE	19.2	10.9	12.3	12.8				
SWIFT	30.0	22.6	13.3	18.3				
LAKE FRANCES	112.0	76.8	77.3	77.6				
LAKE ELWELL (TIBER)	1347.0	765.3	788.5	611.4				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

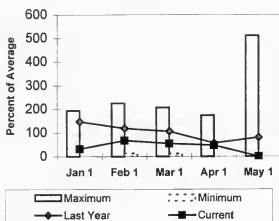
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural volume - actual volume may be affected by upstream water management.

St. Mary and Milk River Basins

Snowpack conditions in the St. Mary were below average. The Bearpaw Mountains in the Milk River were well below average. Snow water content in the St. Mary River Basin was 71 percent of average and 50 percent of last year. The Bearpaw Mountains has melted out and is 2 percent of last year.

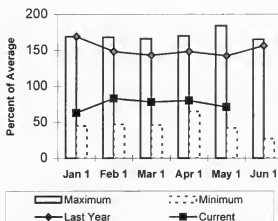
Bearpaw Mountains Snow Water Equivalent



Bearpaw - January maximum swe was established in 1978 and minimum swe was in 1981; February maximum swe was 1978 and minimum swe was in 1977; March maximum swe was 1978 and minimum swe was 1981; April maximum swe was in 1975 and minimum swe was in 1983; May maximum swe was 1975 and the minimum has occurred in several years. Average is for the period 1961 through 1990.

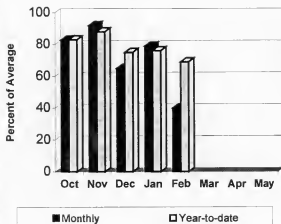
St. Mary - January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1992; May maximum swe was in 1992 and minimum swe was in 1977; and June maximum swe was in 1991 and minimum swe was 1992. Average is for the period 1961 through 1990.

St. Mary Snow Water Equivalent

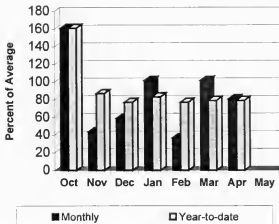


Mountain and valley precipitation in the St. Mary River during April was 81 percent of average and 98 percent of last year with the water year precipitation, beginning October 1, 1997, 79 percent of average and 66 percent of last year. Mountain and valley precipitation in the Milk River during April was 112 percent of average and 155 percent of last year with the water year precipitation, beginning October 1, 1997, 89 percent of average and 100 percent of last year.

Milk Precipitation



St. Mary Precipitation



Reservoir storage, on the last day of April, was 86 percent of average and 77 percent of last year. Lake Sherburne storage was 40 percent of average and 28 percent of last year; Fresno storage was 86 percent of average and 84 percent of last year; Beaver Creek storage was 108 percent of average and 77 percent of last year; and Nelson storage was 106 percent of average and 90 percent of last year.

Streamflows in the St. Mary, for the period May through July, are forecast to be 71 percent of average and 56 percent of last year. Streamflows in the Milk, for the period May through July, are forecast to be 34 percent of average and 28 percent of last year.

Surface Water Supply Index (SWSI) was -2.3 for the St. Mary/Milk River.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
SWIFTCURRENT CREEK at Sherburne (2)	MAY-JUL	60	66	70	71	74	80	98
	MAY-SEP	72	80	85	74	90	98	115
ST. MARY RIVER near Babb	MAY-JUL	224	243	255	69	267	286	371
	MAY-SEP	264	291	310	71	329	356	439
ST. MARY RIVER at US/CAN Border (2)	MAY-JUL	271	297	315	73	333	359	429
	MAY-SEP	322	360	385	76	410	448	506
MILK RIVER at Western Crossing	MAY-JUL	2.0	5.7	10.0	40	14.3	21	25
	MAY-SEP	1.4	7.1	11.0	41	14.9	21	27
MILK RIVER at Eastern Crossing (2)	MAY-JUL	0.4	2.6	11.0	31	19.4	32	36
	MAY-SEP	1.4	9.0	16.0	36	23	33	45
BEAVER CREEK near Havre	MAY-JUL	0.00	0.62	2.95	38	5.28	8.70	7.80

ST. MARY and MILK RIVER BASINS
Reservoir Storage (1000 AF) - End of April

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis - May 1, 1998

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
	Year	This Year	Last Year	Avg			Last Yr	Average
LAKE SHERBURNE	64.3	8.3	29.3	20.8	ST. MARY	8	50	71
FRESNO	127.0	82.2	97.5	95.8	BEARPAW MOUNTAINS	6	0	0
BEAVER CREEK	3.5	2.7	3.5	2.5	CYPRESS HILLS, CANADA	0	0	0
NELSON	66.8	45.3	50.2	42.7	MILK RIVER BASIN	6	0	0
					ST. MARY & MILK BASINS	14	49	69

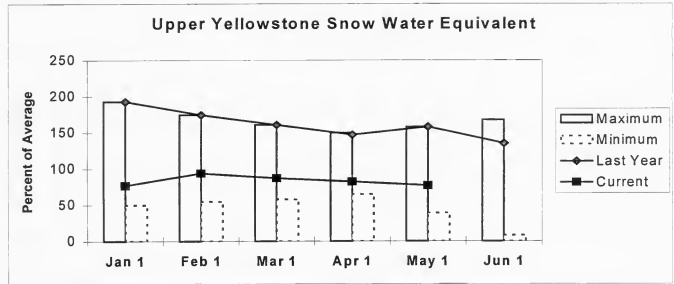
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

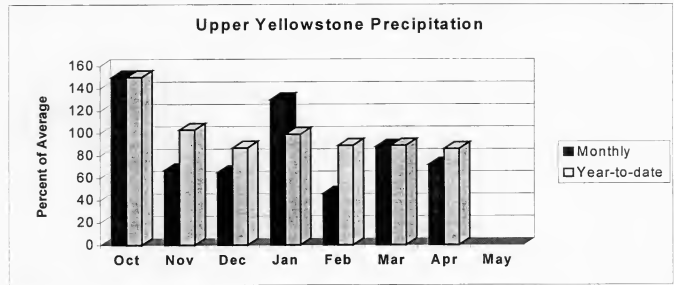
Upper Yellowstone River Basin

Snowpack conditions in the Upper Yellowstone River Basin were below average. Snow water content was 77 percent of average and 50 percent of last year.



January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1997 and minimum swe was in 1977; March maximum swe was in 1997 and minimum swe was in 1971 and minimum swe was in 1981; May maximum swe was in 1997 and minimum swe was in 1987; and June maximum swe was 1982 and minimum swe was in 1987 and 1994. Average is for the period 1961 through 1990.

Mountain precipitation during April was 73 percent of average and 62 percent of last year. Valley precipitation during April was 65 percent of average and 71 percent of last year. Water year precipitation, beginning October 1, 1997, was 86 percent of average and 61 percent of last year.



Reservoir storage, on the last day of April, was 115 percent of average and 106 percent of last year. Mystic Lake storage was 16 percent of average and 300 percent of last year and Cooney storage was 124 percent of average and 106 percent of last year.

Streamflows, for the period May through July, are forecast to be 88 percent of average and 55 percent of last year.

The Yellowstone River at Corwin Springs is forecast to reach snow melt peak flows between May 22 and May 28 with daily peak flows ranging from 12,000 cfs to 17,500 cfs or 68 percent to 100 percent of average; the Yellowstone at Livingston is forecast to reach snow melt peak flows between May 22 and May 28 with daily peak flows ranging from 13,000 cfs to 18,500 cfs or 63 percent to 89 of average; the Boulder near Big Timber is forecast to reach snow melt peak flows between May 22 and May 22 with daily peak flows ranging from 3,300 cfs to 4,900 cfs or 63 to 94 percent of average; the Stillwater near Absarokee is forecast to reach peak flows between May 22 and May 28 with daily peak flows ranging from 3,900 cfs to 6,500 cfs or 59 to 98 percent of average; the Clarks Fork near Belfry is forecast to reach snow melt peak flows between May 22 and May 28 with daily peak flows ranging from 4,600 cfs to 7,100 cfs or 60 to 90 percent of average; the Yellowstone at Billings is forecast to reach snow melt peak flows between May 23 and May 29 with daily peak flows ranging from 24,000 cfs to 37,000 cfs or 56 to 87 percent of average.

Surface Water Supply Index (SWSI) was -2.3 for the Yellowstone River above Bighorn River; -2.0 for the Yellowstone River above Livingston; -2.0 for the Shields River; -1.6 for the Boulder River; -2.2 for the Stillwater River; -2.0 for the Rock/Red Lodge Creeks; and -2.5 for the Clarks Fork River.

UPPER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	50% (Most Probable)		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
YELLOWSTONE at Lake Outlet	MAY-JUL	382	431	465	86	499	548	538
	MAY-SEP	553	614	655	87	696	757	756
YELLOWSTONE RIVER at Corwin Springs	MAY-JUL	1186	1269	1325	87	1381	1464	1516
	MAY-SEP	1448	1550	1620	88	1690	1792	1844
YELLOWSTONE RIVER near Livingston	MAY-JUL	1324	1435	1510	87	1585	1696	1737
	MAY-SEP	1631	1767	1860	88	1953	2089	2123
SHIELDS RIVER near Livingston	MAY-JUL	71	97	115	86	133	159	134
	MAY-SEP	84	111	130	86	149	176	151
BOULDER RIVER at Big Timber	MAY-JUL	204	237	260	81	283	316	322
	MAY-SEP	216	251	275	79	299	334	350
WEST ROSEBUD CREEK near Roscoe (2)	MAY-JUL	40	46	50	83	54	60	60
	MAY-SEP	54	61	65	84	70	76	77
STILLWATER RIVER nr Absarokee (2)	MAY-JUL	300	363	405	85	447	510	474
	MAY-SEP	382	443	485	85	527	588	569
CLARKS FORK RIVER near Belfry	MAY-JUL	341	385	415	82	445	489	508
	MAY-SEP	382	429	460	81	491	538	566
COONEY RESERVOIR INFLOW (2)	MAY-JUL	5.0	18.7	28	74	37	51	38
	MAY-SEP	14.1	27	36	74	45	58	49
YELLOWSTONE RIVER at Billings (2)	MAY-JUL	2251	2697	3000	90	3303	3749	3320
	MAY-SEP	3045	3252	3580	91	3908	4073	3954

UPPER YELLOWSTONE RIVER BASIN Reservoir Storage (1000 AF) - End of April					UPPER YELLOWSTONE RIVER BASIN Watershed Snowpack Analysis - May 1, 1998			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MYSTIC LAKE	21.0	0.3	0.1	1.9	YELLOWSTONE ab LIVINGSTON	14	52	82
COONEY	27.4	24.1	22.9	19.4	SHIELDS	5	44	79
					BOULDER-STILLWATER	4	48	74
					CLARK'S FORK-ROCK CREEK	13	49	71
					UPPER YELLOWSTONE RIVER	32	50	77

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

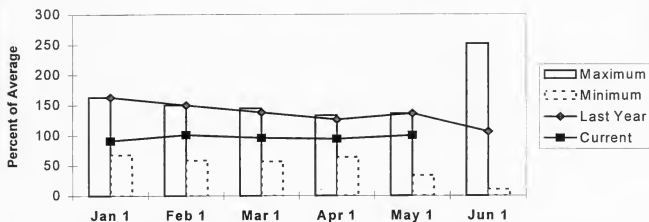
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

Lower Yellowstone River Basin

Snowpack conditions in the Lower Yellowstone River Basin were average. Snow water content was 100 percent of average and 73 percent of last year.

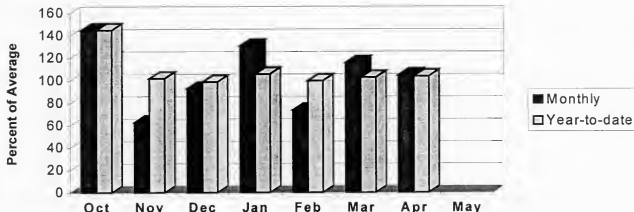
Lower Yellowstone Snow Water Equivalent



January maximum swe was established in 1997 and minimum swe was in 1981; February maximum swe was in 1997 and minimum swe was in 1981; March maximum swe was in 1986 and minimum swe was in 1977; April maximum swe was in 1986 and minimum swe was in 1981; May maximum swe was in 1997 and minimum swe was in 1981; and June maximum swe was in 1995 and minimum swe was in 1994. Average is for the period 1961 through 1990.

Mountain and valley precipitation during April was 105 percent of average and 86 percent of last year. Water year precipitation, beginning October 1, 1997, was 104 percent of average and 82 percent of last year.

Lower Yellowstone Precipitation



Reservoir storage, on the last day of April, was 102 percent of average and 117 percent of last year. Bighorn Lake storage was 105 percent of average and 119 percent of last year and the Tongue River storage was 27 percent of average and 56 percent below last year (this is due to construction at the dam).

Streamflows, for the period May through July, are forecast to be 94 percent of average and 59 percent of last year.

Surface Water Supply Index (SWSI) was +0.3 for the Yellowstone River below Bighorn River; -1.1 for the Bighorn River below Bighorn Lake; -0.9 for the Little Bighorn River; -1.3 for the Tongue River; and -0.9 for the Powder River.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - May 1, 1998

Forecast Point	Forecast Period	<< Drier		Future Conditions		Wetter >>>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	
YELLOWSTONE RIVER at Billings (2)	MAY-JUL	2251	2697	3000	90	3303	3749	3320
	MAY-SEP	3045	3252	3580	91	3908	4073	3954
BIGHORN RIVER nr St. Xavier (2)	MAY-JUL	1211	1407	1540	102	1673	1869	1508
	MAY-SEP	1255	1577	1710	102	1843	2192	1673
LITTLE BIGHORN RIVER nr Hardin	MAY-JUL	44	77	100	85	123	156	118
	MAY-SEP	52	90	115	85	140	178	135
TONGUE RIVER stateline nr Decker (2)	MAY-JUL	132	175	205	99	235	278	208
	MAY-SEP	153	199	230	101	261	307	227
YELLOWSTONE RIVER at Miles City (2)	MAY-JUL	3142	3986	4560	92	5134	5978	4957
	MAY-SEP	4318	4749	5380	92	6011	6535	5835
POWDER RIVER at Moorhead	MAY-JUL	126	155	175	96	195	224	182
	MAY-SEP	145	175	195	96	215	245	204
POWDER RIVER near Locate	MAY-JUL	112	156	185	88	214	258	211
	MAY-SEP	108	166	205	88	244	302	234
YELLOWSTONE RIVER nr Sidney (2)	MAY-JUL	2897	4149	5000	93	5851	7103	5383
	MAY-SEP	4450	4752	5790	92	6828	7271	6268

LOWER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000 AF) - End of April

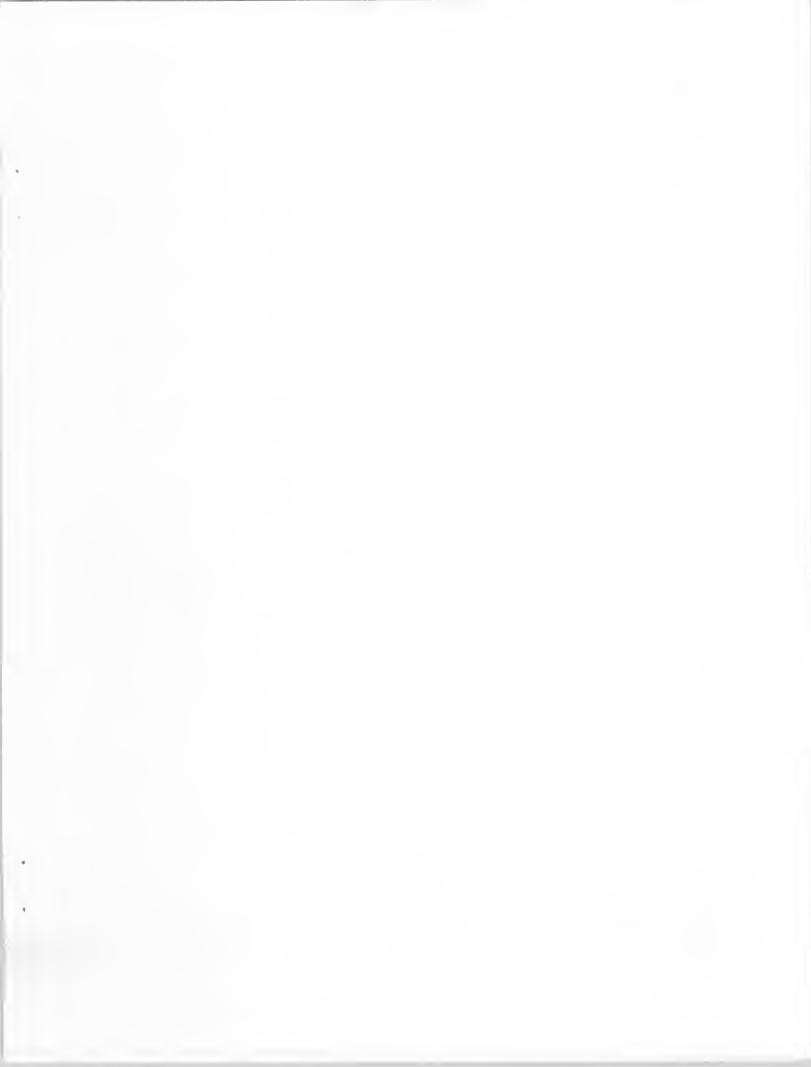
LOWER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - May 1, 1998

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average	
	This Year	Last Year	Avg				Last Yr	Average
BIGHORN LAKE	1356.0	830.7	700.8	789.2	WIND RIVER (Wyoming)	19	73	112
TONGUE RIVER	68.0	10.0	18.0	36.6	SHOSHONE RIVER (Wyoming)	7	57	86
					BIGHORN RIVER (Wyoming)	20	70	95
					LITTLE BIGHORN (Wyoming)	3	86	92
					TONGUE RIVER (Wyoming)	9	83	95
					POWDER RIVER (Wyoming)	8	94	112
					LOWER YELLOWSTONE RIVER	47	75	102
					YELLOWSTONE BASIN	73	63	91

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.





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Montana
Basin Outlook Report
Natural Resources Conservation Service
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